

# THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE

VOL. 80.

NEW YORK, SATURDAY, JANUARY 18, 1902.

No. 3.

## ORIGINAL ARTICLES.

### CONGENITAL ATRESIA AND STENOSIS OF THE RECTUM AND ANUS.

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FAULTY development of the rectum and anus occurs as an infrequent malformation in the newborn, the proportion being one instance among 10,000 infants. The gravity of the condition depends upon the character of the malformation and the opportunity for treatment.

The classification of the anatomical conditions may be simplified, after differentiating atresia and stenosis, by accepting Ziegler's classification of the former, as follows: (1) Atresia ani simplex; (2) vesiculis; (3) urethralis; (4) vaginalis. This classification includes certain sub-varieties; for instance, in simple atresia the rectum may end at a variable distance from the anus; secondly, the formation of the anus may vary from that of the normal to total absence of the anal depression; again, the more or less complete obliteration of the rectal tube at its distal extremity may simulate a complete absence of the rectum.

As to the deviation of the rectum admitting of such conditions as are included in atresia vesiculis, urethralis, vaginalis, we may differentiate the conditions according to the sex of the infant. In the male, the fistulous opening connecting with the rectum may appear upon the scrotum, upon the inferior surface of the penis, and in some instances may connect with the urethra. In the female, the opening may appear in the vulvar fourchette in advance of the hymen or it may find entrance into the vagina proper. In either sex the rectum may enter the bladder or the ureter.

In the development of the rectum in the embryo the entoderm, which serves as the lining membrane of the gut, may undergo imperfect differentiation, resulting in an incomplete formation of the canal. In consequence of such interruption in development we have a condition of stenosis. Trélat emphasizes the existence of transverse folds shutting off the rectum and causing dilatation above the point of stenosis. He regards such a condition as probably an exaggeration of the rectal valves. Simple stenosis of the anus may exist without associated stenosis of the rectum.

**Pathogenesis.**—Malformations of the rectum and anus are to be interpreted, according to Furgue, either as instances of reversion in normal development, giving rise to permanent conditions of deformity, or as instances of aberrant development. Certain embryological data may be considered in this connection.

In the earliest stage of embryonic life the

germinal area becomes separated into an anterior or posterior zone. The former comprises the three leaflets of the blastoderm which enter into the formation of the neural canal and notochord; the latter, which includes the primitive streak, becomes thinned as it approaches the caudal area of the embryo, constituting ultimately a twofold membrane composed solely of the ectoderm and entoderm, the so-called anal membrane. This membrane is situated in the dorsal aspect of the embryo in the median line, but as the embryo increases in its longitudinal axis and becomes bent upon its ventral surface the anal membrane, which is now designated the anal plate, becomes directed toward the center of the general embryonic cavity. In the meantime the caudal tubercle formed by the caudal projection of the blastodermic elements of the primitive streak surmounting the anal plate furnishes the protone of the future pelvis.

By the fifth week of embryonic life a depression of the anal plate occurs by invagination of the ectoderm, resulting in a small fossa. This is called the proctodeum. In vertebrates the proctodeum does not correspond to the end of the intestine, inasmuch as the gut extends beyond the position of the future anus. Ultimately, however, this post-anal region of the intestine disappears.

Previous to the folding forward of the posterior extremity of the germinal area resulting in the anal membrane, there occurs at this extremity of the embryo a slight outward bulging of the entoderm. As the posterior extremity of the embryo turns forward this beginning diverticulum, the allantois, assumes a position between the anal region and the umbilical vesicle. The allantois communicates with the posterior extremity of the mesenteron, or primitive gut, which hitherto has terminated in a blind extremity, and the common receptacle thus formed constitutes the cloaca. This general cavity becomes divided into the genito-urinary sinus, which serves as the common termination of the genito-urinary system, of the intestinal canal, and of the cloaca proper. The cloaca therefore is in direct communication with the genito-urinary sinus on the one hand, while on the other it is separated from the amniotic cavity by the anal plate. The intra-embryonic portion of the allantois, by reason of the division which takes place progressively between the genito-urinary sinus and the cloaca, gradually loses its communication with the latter. This division is effected by the coalescence of lateral folds of the mesodermic layer which unite from above downward in the median line. The genito-urinary and rectal canals are thus made separate. This division is complete, according to Minot, at the fourteenth week. The anal depression shares in this division,

and at about the tenth week the proctodeum is separated from the future orifice of the urogenital sinus by a circumvallate fold of ectoderm which surrounds the area that is later to become the anus. The newly-formed septum finally develops into the pyramidal mass of tissue which constitutes the perineum. The anus itself is formed by the appearance of small isolated areas of degeneration in the ectoderm, which later become confluent. By the extension inward of this process of tissue absorption the anal pit becomes deepened and the depression gradually approaches the end of the bowel. In the fourth month the anal membrane breaks down and disappears.

The walls of the anus gradually become more and more defined, and the epithelial layer which is continuous with the mucous membrane of the rectum makes its appearance. The deeper layer of the mesoderm becomes differentiated into the muscular and fibrous layers which constitute the underlying structures of the rectal tube.

Interruption in this process of development may affect either the rectum or the anus, resulting in, first, a failure in approximation of the rectal tube to the anal opening; second, a permanent vestige of the anal membrane which remains as an obstruction to the passage of the contents of the bowel; third, a deviation and abnormal anastomosis of the rectum with neighboring organs. Abnormalities in development may affect the anus and rectum coincidentally or either structure alone may be the seat of malformation.

**Description.**—The conditions in stenosis call for no further classification than that dependent on the degree of narrowing. As to atresia of the rectum we may note that the arrest in development may involve a more or less extensive segment. Two types are observed. First, one in which the absence of the rectum may be partial. In this form of atresia the cul-de-sac which marks the termination of the gut may descend into the excavation of the pelvis and adhere by a fibrous tract (1) to the connective tissue lining the posterior part of the bony pelvis; (2) to the base of the bladder; (3) to the uterus or the vagina in the female. Second, total absence of the rectum may exist with extensive obliteration of the gut and attachment of the cul-de-sac to the bony pelvis at the level of the sacro-vertebral angle. In certain rare cases the absence of the rectum coincides with arrest in development of the colon. In either form of atresia the obliteration may exist simply as a muscular or fibrous cord, the most careful examination of which fails to reveal the presence of a canal, and in some instances even the strand of tissue which represents the vestige of the rectum may escape detection altogether. As to atresia of the anus we may note that the opening may be permeable only for a certain distance. The configuration of the anus in such cases is normal, but the opening will admit the finger or a sound only to a depth varying from a few millimeters to three or four centimeters. In total absence of the anus the skin may extend from one buttock

to the other without a trace of any opening, even sometimes without a notable depression. In such cases abnormality in development of the pelvic region is shown sometimes by the nearness to one another of the tuberosities of the ischia.

**Symptomatology and Diagnosis.**—The evidences of stenosis and atresia depend upon the degree of malformation. Where the obstruction is absolute and the conformation of the anus abnormal the condition declares itself promptly. There is retention of meconium together with vomiting and abdominal distention. Among the less distinctive symptoms are anorexia, and restlessness alternating with periods of apathy. The child is apt to utter a continuous distressed cry in its restless moments. Hyperesthesia and fever are present. As the condition progresses the infant becomes more or less emaciated and the contrast between the hugely distended abdomen and emaciated portions of the body is sometimes marked. The surface gradually becomes cold and the skin assumes an earthy color, alternating sometimes with cyanosis and mottling. If the condition is not relieved death occurs in from four to six days.

In those cases in which the anus is pervious while the rectum remains the seat of atresia the condition may not be detected, and important symptoms diagnostic of obstruction may escape notice until the opportunity for treatment has been lost. Valuable time is often consumed by repeated attempts to relieve supposed constipation by enemata.

Should the rectum communicate with the genito-urinary tract the fecal material may find exit through this abnormal course. In such cases the vice of conformation may not be incompatible with existence during the early months of life. Communication between the rectum and bladder, however, offers an instance of false evacuation fraught with grave consequences, inasmuch as the fecal masses, which gradually become more and more consistent, act as a source of obstruction. Cystitis, infiltration of urine, and peritonitis are apt to supervene, followed by death.

As to the diagnosis of atresia the anatomical signs of its presence are usually unmistakable. Where a membranous obstruction exists the blind pouch corresponding to the distended rectum contains meconium, the presence of which may be detected by increased bulging during efforts of crying or straining on the part of the infant. Where the obstructing membrane is sufficiently thin the dark color of the meconium may be recognized. The collection of meconium is liable to diminution in bulk through the absorption of its fluid contents in cases in which evacuation is not established.

In atresia of the rectum without deformity of the anal opening the evidences of retention are recognized, first, by exploration of the anal depression with the finger or sound, notably during the efforts of crying, when the distended cul-de-sac may often be detected; second, by the absence of meconium upon the napkins of the infant;



third, by the general symptoms first described. In instances of atresia complicated by anastomosis of the rectum and the genito-urinary tract the condition is recognized by the absence of evacuation through the anus and by the presence of meconium in the urine. Local irritation due to the presence of meconium and the graver symptoms of obstruction of these passages are important factors in diagnosis.

There are but few conditions that might give rise to symptoms analogous to those dependent on stenosis and atresia. The meteorism of atresia is more extreme than distention due to any other cause. The rapidly progressive development of meteorism without inflammatory signs is also of importance. The only conditions that could possibly simulate the distention due to obstruction in the ano-rectal region are infantile peritonitis and distention of the bladder from retention. Further investigations of such conditions would render their diagnosis unmistakable. Intestinal obstruction proper is not accompanied by such sudden and marked meteorism.

The obstruction due to intussusception is at first accompanied by contraction of the abdominal muscles corresponding to the crises of intestinal peristalsis. In the intervals between such contractions the abdominal walls remain yielding, to such an extent as to admit of examination of the abdomen by palpation. The further evidences of obstruction in intestinal invagination, especially the passage of blood by the rectum, are entirely foreign to the signs of obstruction due to atresia.

**Treatment.**—The object of treatment is to establish the normal anatomical condition as far as possible. This is to be brought about by connecting the blind extremity of the gut with the anal depression. When such conditions exist as to make this impracticable an opening directly into the intestinal tract without regard to the anatomical relation of the rectum and anus becomes necessary. In most cases the indications for operation are urgent. The necessity for immediate intervention is not apt to exist in simple stenosis, nor in instances of deviation of the rectal canal without obstruction. In cases of imperforation, however, a means of exit for the intestinal discharges must be promptly established, otherwise the infant will perish from the results of obstruction.

As to the method of procedure we may note in reference to stenosis that gradual dilatation is indicated. The permanent retention within the rectum of a dilating staff in the form of a flexible bougie is neither necessary nor practical. The dilatation must be practised until the stenosis has been permanently overcome. It is to be noted further that in cases, alike of stenosis and of atresia, in which apparently marked deviation from the normal exists the sphincter muscles of the anus are frequently well developed. In cases of stenosis, therefore, after the original contraction may have been overcome, the spasm of the sphincters may give an exaggerated impression of resistance. The occasional administration of a mixture of

castor-oil and glycerin to induce a partial laxness in the discharges is to be recommended; or, instead of this, rectal suppositories of glycerin, manufactured in elongated flexible form, may be introduced into the rectum daily. Rectal injections of saline solution by means of a woven silk catheter introduced to beyond the point of stenosis may be resorted to for the same purpose.

In deviation of the rectum with anastomosis with the bladder or urethra it may be necessary to relieve the obstruction. According to Ball the method of procedure in such case is to perform perineal section as a primary operation, entering the base of the bladder and opening thereby a means of rectal evacuation. Later the colon may be approached by inguinal colotomy, inasmuch as the rectum is held suspended in the pelvis by its attachment to the bladder, and is therefore out of reach by the perineal operation. In performing the secondary operation the cul-de-sac may be drawn up into the inguinal incision and, after its attachment to the edges of the abdominal opening, may be incised. An artificial opening is thus established similar to that in laparocolotomy, while at the same time the perineal incision may be encouraged to heal.

In most cases it will be necessary to postpone the second operation for some months—possibly until the child has entered its second year. At best the infant's vitality can scarcely survive these repeated operations. In view, therefore, of the necessity in many cases of early interference, and of the shock following operation at a time when least may be expected of the infant's powers of resistance, it is essential that the infant be nourished by the mother; if this is impracticable recourse should be had to a carefully modified milk food. The administration of whisky and the application of oil rubbings are important adjuncts in treatment. The most scrupulous care in the hygienic surroundings of the infant should be observed. In the interval in which perineal drainage is maintained frequent changing of the napkins, constant inspection in order to estimate the quantity of fecal matter discharged and to insure the permeability of the wound to the excretion of urine, as well as the cleansing and repacking of the wound, are essential.

Two methods of treatment in imperforation may be considered: (1) The opening of the rectum by perineal incision at the anal site; (2) the establishment of an intestinal outlet by means of inguinal colotomy after the method of Littré. Generally speaking, the inguinal incision is to be preferred when prompt relief is demanded. Where the cul-de-sac is accessible and where it can be drawn down to allow its artificial attachment to the inferior pelvic tissues the perineal operation may be undertaken, although the precise indications for its employment are not always present. It is contra-indicated where the termination of the gut is high, attached, for instance, in the neighborhood of the promontory, refusing to descend with the effort of crying and thus eluding the grasp.

The narrowness of the pelvis, characterized by the apposition of the tubera ischiorum, is a proof of arrest in development of the pelvic tissues, the rectum included, and is sufficient contra-indication for the perineal operation.

Forgue bases the indications demanding perineal operation upon the condition of distention of the perineum, upon the descent of the rectum during the infant's cry, upon the actual presence of the anus and upon the detection of the cul-de-sac by catheterization of the bladder or vagina. At the same time he does not regard these indications sufficient to enlighten us as to the position of the cul-de-sac in the pelvis, that is, as to its accessibility by perineal incision.

Prolonged dissection in a difficult case is unjustifiable. The inguinal incision in such a case

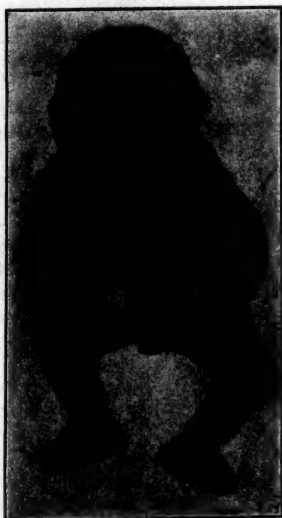
perineal incision, the original exploratory opening being closed. This procedure, however, constitutes extreme surgical intervention and is scarcely justifiable under the average conditions in such cases. The iliac operation recommends itself in cases in which the symptoms of obstruction are grave or in which the treatment has been delayed. The infant two or three days old, with repeated vomiting, feebleness and rigors, must be the subject of prompt action, unless the obstruction appears to be due simply to a slight membranous bridging over of the anus and the cul-de-sac can be readily detected bulging against the perineum. Otherwise the indication is to open the anus at the point of election, namely, in the iliac region.

Trélat has emphasized the increasing danger of the situation as the case progresses. While in certain favorable instances the perineal incision may be utilized in the first few hours of the infant's life, it becomes, on the other hand, less and less admissible as the general accidents of the condition become more threatening. In such cases Forgue, therefore, considers it necessary to select the operation which will relieve the cause of obstruction most promptly rather than that which will restore the anatomical conditions. It is usually difficult to determine the degree of recession of the rectum and the extent of atresia. The reason for this is that when the rectum is suspended at the superior strait, the bladder and the vagina, being without support posteriorly, are apt to be displaced toward the concavity of the sacrum. The sacral excavation is, therefore, filled by these organs. As a result, exploration of the vagina or urethra by the sound is apt to be misleading, in that it does not reveal with certainty the presence or absence of the rectal ampulla, anterior to the plane of the sacrum.

#### *Technic in Littre's Operation.*

The abdominal wall is incised parallel to the groin at a distance of  $\frac{3}{4}$  of an inch above Poupart's ligament on the left side. The incision must be made carefully owing to the abdominal distention, otherwise the gut may be punctured prematurely. The gut is first inspected as to its mesenteric attachment in order to determine its identity; then it is to be drawn up into the incision and stitched to the edge of the wound. The gut is afterward incised. Careful exploration by means of the sound as to the attachments and position of the rectum should then be practised in order to determine the data for future operation. The dressing should be carefully applied and frequently changed, inasmuch as the meconium and intestinal secretions are discharged in great quantity. The wound should be frequently inspected in order to detect the presence of hemorrhage, which is sometimes apt to occur from the edge of the wound. Fatal hemorrhage of this character has been reported by Hirst.

Forgue recommends the following technic in perineal incision: The infant, warmly enveloped,



The terminal attachment in imperforate rectum.

should be resorted to in preference to the perineal incision, on account of the superior precision in technic in the former, and the possibility of more exact avoidance of infection. This procedure likewise furnishes the most direct method of giving issue to the retained meconium. Exploration of the inguinal opening should be made during operation by the sound in order to determine the position and attachments of the rectum relative to the possibility of future perineal operation. Where the rectum can be brought down to such position as may permit its attachment to the perineal tissues an artificial iliac anus may be established temporarily.

Another method of operating may be followed by exploration of the position of the rectum, carried out by an incision in the neighborhood of the sacro-iliac articulation. The rectum may then be freed and its attachment to the incised perineum established. If it is found impracticable to force the rectum sufficiently downward an artificial iliac opening may be made instead of the



is placed in the dorsal decubitus. The proper light is directed toward the field of operation. The thighs are flexed and supported. A sound is introduced in the bladder or vagina, according to the sex of the infant, in order to fix the median line as a landmark governing the direction and depth of the incision. The latter extends from the region of the anus, if it exist, or from the scrotum or fourchette, if the anus be absent, to the coccyx. The exploration should be as far backward, hugging the anterior surface of the sacrum, as possible. The anal infundibulum should be approached guardedly, and the tissues



The point of incision in Littre's operation.

examined attentively in the course of the incision. The field of operation should be carefully sponged and the connective tissue and fascial layers of the pelvic floor separated with care. Proceeding thus in order to discover the ampulla, the operator is guided partly by the sound in the urethra or vagina and partly by the examination of the tissues anterior to the sacrum and coccyx. The deeper incision should be made by means of blunt-pointed scissors. Finally, there is noticed in the wound a brownish distended sac, circumscribed by the denuded tissues. This becomes resistant and rounded, bulging toward the surface upon abdominal pressure. This is the blind extremity of the intestine. Should the rectum escape detection, it may be necessary to insert the little finger into the infant's pelvis up to the second joint; by passing a tenaculum along the finger the end of the rectum may be seized and pulled down. If it be still impossible to discover the position of the rectum the scissors are used to deepen the incision in the median line directly in front of the coccyx. The latter is then detached and removed. This resection of the coccyx increases markedly the field of operation and facilitates the exposure of the intestine. The gut is drawn down and carefully sutured to the anal region before it is incised, in order to prevent the infiltration of the surrounding tissues by the intestinal discharges and to give the rectum a fixed point of attachment. Great care should be observed in detaining the intestine at its point of future fixation after it has been disengaged and before the sutures are fully secured. Four or more sutures are introduced, an equal number on either side, longitudinally to the incision, including the skin and the wall of the intestine; by making gentle traction upon the sutures thus introduced, without tying them, the rectum may be drawn into position. A longitudinal incision of the gut is made from eight to ten millimeters in

extent. The mass of meconium is then expelled. The operation is completed by the addition of sutures at the anterior and posterior commissures of the artificially-formed anus. The wound is carefully irrigated after operation and at each succeeding dressing. The napkin should be frequently changed in order to obviate the danger of irritation from the urine soaking through the dressings. The orifice should be dilated with the point of the little finger when the operation is completed. Later the finger should be introduced occasionally, at the time of dressing, and the wound should be inspected frequently in order to forestall the possibility of hemorrhage, which is likely to occur from the edge of the incision.

It may be observed here that the anal sphincter is frequently well developed in spite of the malformation of the rectum. The cicatrization which follows operation gives attachment to the muscular fibers which are present, so that the control of the rectum speedily asserts itself.

It is advisable to administer an anesthetic during operation in all cases in which careful dissection is required.

It is apparent from the foregoing that the treatment of imperforation demands, in order to determine the best procedure to be followed, first, the strictest observation of the anatomical condition present; second, a study of the condition of the infant, relative both to the urgency with which it may be necessary to relieve the obstruction, and to the ability of the infant to withstand a second operation.

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#### GENERAL MEDICAL TREATMENT OF SYPHILIS.

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THE pivotal point in the therapy of syphilis is of necessity the specific medication of the disease. In few or no instances, however, can specific medication alone be relied upon for a satisfactory result. In many instances the importance of specific medication sinks into insignificance before the general therapeutic indications present in the particular case. Specialism has done great harm by limiting the range of remedies useful in syphilis, independently of their specific effect. The success or failure of treatment in by no means infrequent instances depends more upon the general intelligence and therapeutic skill of the practitioner than upon the assiduity with which he carries out specific therapy.

The general hygienic management of syphilis is of fundamental importance. In many instances mercury and iodides act badly, simply because the patient's eliminative areas are not functioning with their normal activity. Injurious results from the drug specifics occur under such circumstances, and are explained by that explanation which does not explain, "idiosyncrasy." Ptyalism and iodism may both be avoided in many cases by attention to the eliminative functions. The ingestion of large quantities of water, with the concomitant increased functional activity of the skin, kidneys and bowels, is very useful in syphilis. This point is too frequently neglected. In giving iodides it is best, as is generally known, to administer them simultaneously with considerable quantities of water. It is impossible, however, without resulting stomachic disturbance, to give a sufficient quantity of water in this way to perfect elimination by the kidneys in certain cases in which the renal function is inadequate. It is in just such cases that iodism from so-called idiosyncrasy is liable to occur.

The best method of giving the iodide under such circumstances is to mix the daily dose of the drug with a given quantity of pure water, say from two quarts to a gallon, and instruct the patient to drink the entire amount, a glassful at a time, at intervals during the twenty-four hours. I have succeeded in avoiding iodism in this way in patients in whom the smallest quantity of iodide given by the ordinary method produced iodism.

Hot baths are a very useful adjuvant to the treatment of syphilis. They increase tissue metamorphosis, favor elimination, and necessarily enhance the therapeutic action of the mercury and iodide, while limiting any possible injurious effects of the drugs. In many instances hot baths alone will prevent injurious effects from mercury and iodide. A very hot bath of short duration, taken daily and followed by a cold shower or cold tub, is perhaps the best method of administration for the average patient. The ideal method, however, where its application is practicable, is the Turkish or Russian bath. The patient should drink large quantities of hot water while in the bath. Much of the efficacy of the Hot Springs treatment of syphilis is dependent upon the free ingestion of hot water while the hot bath is being given.

Attention to the bowels is very important in the treatment of syphilis. Ptyalism not infrequently results as a consequence of constipation. Obviously, the simpler forms of laxatives are best. The saline aperients taken hot in the morning are excellent. In many instances the substitution of a more active salt of mercury is followed by beneficial results when a tendency to constipation exists. In cases in which the bowel becomes irritated and, instead of being constipated, the patient is afflicted with diarrhea, the substitution of the tannate of mercury for the other preparations, or, in extreme cases, the

use of the inunction or hypodermatic method, in lieu of the internal administration of the drug, gives excellent results.

In many instances the therapeutic efficacy of our antisyphilitic remedies is inhibited by digestive disturbance. Here, again, experimentation with various forms of the salts of mercury is often necessary to determine which particular salt is best tolerated. When the gastric symptoms are stubborn, the substitution of the hypodermic or inunction method is imperative. Lavage is sometimes of service in relieving the digestive disturbance and increasing the patient's tolerance for drugs.

When iodides are given, and the stomach and bowels are irritable, considerable trouble is often experienced in carrying out the treatment. When the fault lies with the stomach, the combination of essence of pepsin, plain or phenolated, with the iodide is useful. Taka-diastase is indicated when the irritation is largely of the bowel and starch indigestion exists.

In many instances in which syphilitic lesions, particularly of the mucous membrane, are very resistant to treatment and the patient apparently does not tolerate mercury and iodide well, the substitution of chlorate of potassium for these remedies is followed by most beneficial results. It should be given in ten-grain doses four times daily, largely diluted with water. It may be urged that this remedy acts only by antidoting certain evil effects of the iodide and mercury, which untoward effects are mistaken for symptoms of the disease itself. I am of opinion, however, that the chlorate of potassium, while in no sense a specific for syphilis, has a marked and positive action of its own in syphilitic lesions, more especially of the mucous membrane. Whether its property of hyperoxygenating the blood is responsible for the benefit derived from the drug is open to question, and is of but little moment. The clinical fact, I believe, remains the same, *i. e.*, that the chlorate of potassium is one of our most valuable remedies in the systematic treatment of syphilis.

He would be a careless practitioner, indeed, who did not realize the value of and utilize remedies of a tonic nature in the treatment of syphilis. In many instances the administration of simple tonics, such as iron and bark, will bring about a successful result in cases which are absolutely resistant to specific treatment, and which indeed seem to grow worse under it. It must be remembered that not only is syphilis debilitating, but full physiologic doses of mercury and iodide produce a distinctly debilitating effect, often with profound anemia. This anemia results not only from the perversion of nutrition caused by faulty digestion and assimilation induced by the irritating property of the mercury and the iodide, but from the special action of these drugs on the hematopoietic function.

The combination of the preparations of iron with mercurials, such as the pill duo, originally suggested by Otis, often obviates the debilitating



effects of mercury. In long-standing cases of syphilis the syrup of the iodide of iron is the most eligible preparation of the drug. The wine of coca, as suggested by Dr. R. W. Taylor, or, preferably, in my experience, the fluid extract, has a by no means unimportant action in avoiding debility in syphilis. The combination of arsenic with the mixed treatment is useful, not only in combating debility, because of its marked tonic properties, but, as is well known, in inhibiting the effects of the iodide upon the skin. Iodide acne is very much less marked and is often avoided when arsenic is exhibited in combination with the iodide.

The cardinal principle which I desire to emphasize in the therapy of syphilis is that the physician should remember that he has to deal with three factors; first, a specific disease to be controlled by specific medication; second, a distinct, individual personality in each patient; third, the results of antispecific medication.

There is too great a tendency to treat syphilis and absolutely ignore the individual afflicted by it.

#### A CONSERVATIVE ELEMENT IN ACUTE MASTOID SURGERY.<sup>1</sup>

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Two years ago a country youth of healthy parentage and wholesome surroundings, while convalescing from scarlatina, suffered from an acute tympanic inflammation, followed by a purulent discharge which lasted two weeks, then abated with accession of pain and fever. The meatus was excoriated, fundus symptoms were pathognomonic, tenderness over the antrum was significant, with tumefaction extending from mastoid tip to temporal ridge. Operative suggestions did not meet with approval, but a compromise was effected in the hot bichloride douche and the patient kept under observation. Three days later all symptoms had become exaggerated, and, in addition, the integument involving the temple was red, tense, and imparted a sense of fluctuation. An immediate operation was advised and, upon this being refused, further responsibility was declined by the physician. The subsequent history was a continuation of douching, followed by gentle massage backward and downward, to dislodge pus from beneath the fascia into the external canal. Under the contracting influence of the former and the pressure of the latter, with general sustaining measures, pain, fever, and swelling subsided with recovery more perfect than could have been wrought by surgery.

The present condition is a slight tinnitus, watch-hearing distance 20 inches, and an area of cicatricial tissue in the posterior-superior quadrant. The operative indications were too pro-

nounced to teach us conservatism under similar considerations; but the case illustrates that we do not always know what "might have been" under other circumstances, and that there are many similar experiences wherein Nature is the great physician.

Our profession has always had a monopoly in uncertain knowledge.

"Whatever seed we may be sowing,  
The task that tries us most is—knowing."

The intricacies of the human mechanism and the spirit of life which pervades it are imperfectly understood. We are groping amid hundreds of reciprocal relations, numberless reactions, unlabeled conditions of various interpretations. When many of the grosser problems relative to function and to disease have been solved there remains the personal equation—the individualism which will always be an insuperable barrier to precise medical and surgical treatment. Our ignorance of the definite causes of pain, of that peculiar hyperesthesia which distinguishes nationalities, of the unforeseen manifestation of disease and recuperation, too often passes for real knowledge.

The illumination of the mysterious darkness that for centuries shrouded wound-infection has resulted in surgical transition with the promise of a still more brilliant day. A distinguished English physician observes that "in this very security, linked with our desires to meet the exigencies of the present, we unconsciously favor the tide of unrest which looms up with an ominous future." Though the average life be lengthened, disease and complaint are no less in evidence. People are no longer inclined to rest and to work out their health problems in natural processes, but run impatiently to surgery to have the same accomplished for them, knowing nothing of shock, nothing of failure, only its successes.

On the other hand, the specialist is apt to cultivate a morbid readiness to detect disease, to place the standard of health too high for practical purposes, forgetting that a good degree of being is compatible with innumerable departures from the normal standard. Health is relative; it is not a direct dial, pointing to zenith, but an arc of considerable latitude.

The pendulum swing between medicine and surgery tends to extremes. The excursion from the former to the latter in appendicitis has met with reaction in favor of time, but not until the penalty was paid in operating too early, thereby confounding the diagnosis with ailments of gastro-intestinal character. In gynecology pelvic surgery has become a too-absolute specialty, dissociated with the relative importance of the great sympathetic nervous system and the general field of scientific medicine. Dr. Goodhart tells us: "Organs have suffered from the lust of the people for operations and from the insufficiently non-repellant attitude of surgery."

Whereas these remarks are general, recent articles, differing from the conservatism of text-

<sup>1</sup>Read before the Otolological Section of the New York Academy of Medicine, Oct. 9, 1901.

books, indicate that we are becoming more extravagant in our assertions, and are gradually approaching the surgical maelstrom. One writer makes the statement that mastoid implications are present in all severe cases of influenza, and that meningitis, sinus thrombosis, and other intracranial complications are becoming more frequent and alarming with each epidemic. Some deplore one or all of the abortive measures while observing the patient. Some would subject the mastoid to the same exploratory procedure as in abdominal surgery; and one is spreading the doctrine that mastoiditis is generally due to uricacidemia, and recommends operation when pain is elicited by pressure over the antrum, without waiting for the fundus symptoms. We have no desire to criticize the respective authors, or the specific conditions under which these suggestions originated. We question only the feasibility of general application and of inculcating radical sentiments to influence those of lesser attainments in aural surgery.

Were all equally skilled in technic and were congestion and granulation essentially operative, the blunt of exploration in doubtful mastoid necessities might be more cheerfully recommended; but under the existing conditions there is not an otologist who would not trust to antiphlogistic remedies until indications were pronounced, rather than submit himself to inexperienced hands, notwithstanding acute cases require less skill for successful performance. It is no trivial observation that physicians have a profound respect for their own end of the lash, and that inexperience is neither modest nor cautious. However commonplace operations may appear to the surgeon, to the laity they present serious phases that demand deliberate and conscientious consideration. The ablation of an apophysis costs little effort, but to the patient it may mean many weeks' absence from occupation as well as the dangers from the lack of thoroughness on the part of the operator. When we note how rarely meningitis accompanies acute mastoiditis, and how seldom in general practice brain complications are traceable to aural diseases as compared with other causes, surgical intervention should be more circumspect than in the chronic forms.

Were all equal as diagnosticians there would be less danger arising from misinterpretation of symptoms. The poet was not far wrong respecting mastoids when he said of affairs in general, "Things are not what they seem." After years of painstaking observation, who is not convinced of his diagnostic errors? Schwartz echoes this sentiment in his maturer writings. We grant that large experience gives intuitive knowledge; but wisdom, which is knowledge in its application to the exigencies of human necessities, is more apparent after the operation. One is stampeded to surgical inclinations because the bacteriologist announces the presence of streptococci, apparently unmindful that these organisms may exist in quantity with harmless effect; another, because the discharge is disproportionate

to the size of the tympanum, a condition which may clear up speedily, and which is not infallibly due to mastoid complication.

Abnormal temperature, especially in childhood, may be coincident, making differentiation impossible, until the *prima via* have been relieved and time has been given for the development of other symptoms to denote local or general disorder. Pain is so relative as to make its significance most difficult to gauge in the young and the hypersensitive. A persistence of this symptom—individualism rather than disease—has led to total ablations when there was no mastoid pathological evidence of the necessity. Tenderness over the antrum is equally misleading, yields frequently to the element of time, and is rarely in itself an operative indication.

The *tout ensemble* of the case should be considered—the primary or secondary nature of the attack. If primary, with resisting muco-periosteum and normal phagocytosis, amid conducive surroundings, the less skilful operator may well delay in reasonable doubt. If there be persistent narrowing of the deeper meatus, with concomitant symptoms of pus in the mastoid cells, or if the attack be engrafted upon a residual condition in an individual of vitiated blood, poor nourishment and ill environment, the early operation emphatically takes precedence. But when such complex symptoms are to be weighed in the balance, which can be trusted the more, the diagnostic ability of limited experience, or the granulation bulwark with which Nature invariably guards herself against pathogenic invasion?

To counsel delay with the use of antiphlogistic measures in acute mastoid inflammation is wiser than to encourage hasty operative procedures under blundering conceptions. The truth of this is most apparent to those who see the result of inefficient surgery, and emphasizes the necessity for careful instruction in such measures as all can apply with equal celerity and exactness. In no other ailment is it more imperative to know the significance of early rest and medication to reduce arterial tension, the importance of paracentesis to unload obstructed capillaries, the value of the ice-coil to retard bacterial activity, the wisdom of thermal douching to prevent mural implantation, to relieve congestion, edema, and pain. In no other ailment is it more imperative to mitigate suffering for a reasonable period of twenty-four hours. Even in recourse to analgesics, the periosteal character of the pain and the fact that temporary relief is sometimes the beginning of convalescence should be borne in mind. While observing the patient, every local, general, and detergent effort should be made to abort operative necessities. The intelligent application of such is not so confusing as poor surgery, nor should an occasional failure establish a general abolition.

The element of self-limitation has revolutionized therapeutical methods. While schools have contended over treatment, many diseases remain



uninfluenced except in response to the rule of Nature. Fehleisen discovered the streptococci which explain the phenomena of erysipelas; but why this process is propagated only to a certain period, when the organisms disappear, is still a mystery.

The ear is a minor part of God's handiwork, but governed by the same blood and sharing in the same law of limitation. Its anatomical adaptability is more complex than that of any other organ. To receive, to transmit and to analyze, instantly, the vibrations from whatsoever source, from all the varied noises and harmonies that can be produced in one's immediate vicinity, is marvelous beyond explanation. But the process of reparation is not dissimilar, nor is the manifestation of protective wisdom the less, because of this exalted function.

A careful search into aural histories and a close scrutiny of membranæ tympani must convince every observer that the natural tendency of acute otitis media is to recovery, even under questionable treatment. Bezold states that nine per cent. of acute middle-ear suppurations involve the mastoid to such an extent as to make spontaneous recovery improbable. These statistics may apply to crowded cities, but they are not true respecting small towns and environments. There is no more significant fact than that the general practitioner is greatly in evidence during epidemic influenzas, and that his acute aural cases involving the mastoid rarely require operative necessities.

In defense of this assertion we give the following approximate statistics, gathered from the experience of twenty-five physicians variously located. All are representative practitioners of more than ordinary acquirements, and several are surgeons of excellent repute. These physicians aggregate in practise five hundred years, and have had eighty cases of acute mastoiditis following middle-ear inflammation come to operation; or, in other words, each of these physicians has had an operative case once in about six years.

These numbers will seem incredible to those accustomed to the frequency of acute mastoiditis in many of our institutions especially fitted to treat this affection; but they are verified by noteworthy experiences. Dr. G. K. Dickinson of Jersey City, distinguished for diagnostic, medical, and surgical ability, reports that in twenty-four years he has not seen more than six cases. Dr. John Seward of Orange, a most conscientious observer in the interest of his *clientèle*, has had three cases in thirty-two years. Dr. Brodnax, an encyclopedia of medical knowledge pertaining to his country in Louisiana, has never known such a complication. In one instance only was there an adverse report. Dr. Guthrie of Wilkes-barre believes that operative cases of acute mastoiditis following gripe epidemics are relatively numerous and particularizes the years 1889-90.

The complete report, however, conforms to my own experience. From 1873 to 1897, devoted

exclusively to general practice, during which time I had the medical supervision of several hundred families, two cases of acute mastoiditis came to operation and four of subperiosteal pus accumulations made excellent recoveries under the Wild's incision. From 1897 to date almost exclusive study has been given to aural diseases, yet during this period there has not been the suggestion of an operative case in my medical acquaintanceship, which confirms that but little was overlooked in earlier years, and only eight have been referred out of all the experiences of fellow practitioners.

The explanation must be sought in two conditions. First, it emphasizes that peculiar reciprocal relation between demand and supply. In the abundant opportunity of this world honest effort can invariably find the object of its search. We have only to prepare ourselves for definite work, and then await the tide of human affairs. It verily seems that were one to devote his special energies to the repair of dislocated necks, under the patronage of an endowed institution, he would soon be confronted with a thriving business. A second explanation is in the individuals and their surroundings, in the relief afforded by treatment, and in the protective influence of Nature. The operation of natural laws varies with different orders of beings through the influence of habit, heredity, and environment. Though Nature does not directly provide man with a home or a dress suit, it must be admitted that in most acute cases and in many chronic conditions she guards well her own interest, even when both physician and surgeon are *hors de combat*.

In our institutions the facts respecting successive operations point to error on the part of conservatism; but to advocate exploratory operations or early operative procedures in acute mastoid inflammation, before the fundus symptoms are significant or before local and general antiphlogistic measures have had due prominence, proceeding from medical centers to go throughout the land to influence those who treat under circumstances differing materially from our own, is too radical to secure the greatest good to the greatest numbers.

Experience gained and conclusions formulated from clinical services in a large city like New York are but relative to a class of people more or less vitiated by dyscrasias and burdened by unwholesome surroundings. Knowledge derived from such sources should not be applied with too great fervor in those sections of country where blood, food, and climate are most conducive to recuperation, and where tissue-resistance is more potent to limit extension.

In the early operation, the experienced surgeon with clear conception and faultless technic may save life and function; but in the hands of the many the protective and the reparative processes of Nature will be abetted *more* and embarrassed *less* by rational antiphlogosis than by meddling surgery.

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**THE CLASS OF CASES OF SIMPLE CHRONIC GLAUCOMA IN WHICH OPERATION IS NOT ADVISABLE.<sup>1</sup>**

BY CHARLES STEDMAN BULL, A.M., M.D.,  
OF NEW YORK.

IN THE years which have elapsed since Von Graefe first suggested the operation of iridectomy for the relief of glaucoma, our views as to the value of this method of treatment in all forms of glaucoma have undergone material modification. Your Chairman has asked me to present to the Section on Ophthalmology a paper upon the subject of "those cases of glaucoma in which operation is not advisable," and, in accepting his invitation, I have decided to confine what I have to say to the subject of *simple chronic glaucoma*.

The complete divergence of opinion as to the relative value of various methods of treatment in simple chronic glaucoma is probably due to a lack of precision in interpreting the real meaning of the various symptoms as they are observed in different cases. In the actual state of our knowledge, it is difficult always to distinguish between the intermediate forms which present themselves to our notice. It is known to us all that some cases are called simple chronic glaucoma by one class of authors, while the same are classed as inflammatory or irritative chronic glaucoma by other authors of equal repute. May it not be wise to regard simple chronic glaucoma as a disease in many respects essentially different from glaucoma with exacerbations? We should also never forget that the symptoms which are supposed to characterize simple chronic glaucoma, viz., reduction of vision, narrowing of the visual field, and excavation of the optic disk, are not characteristic of the disease, for they are all met with in simple atrophy of the optic nerve.

I am inclined to think, partly from my own experience and partly from the expressed opinions of some of my colleagues on the subject, that the unfavorable view taken of operative procedures in simple chronic glaucoma is often due to our errors in diagnosis. We must learn to distinguish absolutely between simple chronic glaucoma and a diseased condition of the optic nerve with pre-existing physiological excavation, and the distinguishing sign is the increase of the intra-ocular tension. Without this *increase of tension* there is no *glaucoma*. Here is the great difficulty, for in simple chronic glaucoma the increase of the intra-ocular tension is often so slight as to be far from easy to recognize, and in these cases we may readily confound the disease with atrophy of the optic nerve. Moreover, in this form of glaucoma increased tension is not constantly present, and may be absent for hours and even days in succession. In fact, as we know, the disease presents no active symptoms and it is difficult to fix the date of onset. These periods of increased tension should be searched

for with the finger-tips placed on the sclera itself and not on the closed lids. I make the examinations frequently at different hours of the same day or different days. I think we are justified in saying that in every case of simple chronic glaucoma there is a slow but progressive increase in the tension, not always to be recognized at first, but which becomes demonstrable after repeated examinations.

Some writers are of the opinion that this false or pseudoglaucoma simulates the real glaucoma in about half the number of cases of so-called simple glaucoma. If we confound the two diseases with each other, we may be guilty of a double error, for the false glaucoma should never be treated surgically, and, if the case be a true glaucoma, we may deprive the patient of its real surgical remedy. A possible explanation of the failure of both iridectomy and sclerotomy to bring about a cure in all cases in which the tension is not increased may be in the fact that they exert no effect in reducing normal tension, but only produce this effect in cases in which the tension is increased. In studying our cases of glaucoma, we may sometimes gain assistance from observing the existing conditions of the angle of the anterior chamber. The form of the filtration angle varies with that of the ciliary muscle. In emmetropic eyes the angle is wide and the peripheral origin of the iris is variable. In hypermetropic eyes, the peripheral origin of the iris is displaced inward toward the axis of the eye, and the angle of the chamber is narrowed and pointed. In myopic eyes, the origin of the iris is displaced outward away from the axis of the eye, and the angle of the chamber is rounded and wider. Hence the angle is more apt to be closed by the glaucomatous condition in hypermetropic eyes, and less so in myopic eyes.

A careful and frequently repeated study of the field of vision will often yield valuable information, helping us to a decision for or against operative interference. The defects in the field in glaucoma often represent peculiar types, and it should here not be forgotten that disease of the retinal vessels sometimes causes defects of the field of vision which show a certain analogy with glaucomatous defects. We do not always meet with the typical contraction on the nasal side, for there are frequent exceptions. It is also well to remember that the personal equation of the observer should always be considered in examinations of the visual field. To one observer a field may appear contracted and to another observer uncontracted. But if we find that the visual field is on successive days and at repeated examinations contracted on the nasal side or concentrically, we may be sure that the disease is progressing. If the field be examined with white objects under small visual angles, according to the plan recommended by Bjerrum and Meisling, or by squares of gray paper, as suggested by Holden, we can often demonstrate a much greater functional disturbance of the field of vision than by the ordinary perimetric examinations.

<sup>1</sup> Read before the Ophthalmic Section of the Academy of Medicine, Nov. 18, 1901.



I agree fully with De Schweinitz that the existence of scotomata in the field aids us in forming a prognosis in simple glaucoma. They are frequently the forerunners of subsequent peripheral defects in the visual field. I do not consider, in any doubtful case, that the field is thoroughly mapped out until each meridian has been examined from fixation point to periphery and under varying degrees of illumination, both for white and colors. The scotomata may be central or paracentral, but are topographically different from those met with in atrophy of the optic nerve. We know that the prognosis depends on the type of the disease and the stage of its development. Much also depends, in the chronic cases, upon the amount of degenerative change in the retina, measured by the defects in the visual field.

We may also gain some insight as to the result of an operation in a given case from the condition of the iris and its reaction to myotics, and in some cases this behavior of the iris furnishes a good prognostic guide for operative interference. The most important point in the management of chronic glaucoma is that our *diagnosis* should be *correct*, and we should be careful never to base our diagnosis upon the presence of one or even two symptoms, but we must look for them all, even if we are forced to reserve our diagnosis until the patient has been examined a number of times.

The study of the disk in chronic glaucoma is often misleading. Total excavation of the disk as far as its edge often exists without any increase of tension demonstrable by the finger. Schweigger is probably correct in saying that the term "physiological excavation" should only be employed when it involves more than one-third of the papilla and shows at the bottom the lamina cribrosa. The ophthalmoscopic picture of physiological excavation may be produced by glaucoma, and a large physiological excavation with discoloration of the disk often cannot be distinguished from a pressure excavation. Here the diagnosis is very difficult, for the ophthalmoscope cannot tell which process came first. The pre-existing physiological excavation, in consequence of a secondary atrophy of the optic nerve, may eventually coincide all round with the scleral margin of the disk, and give a picture of "typical glaucomatous excavation" without glaucoma. In the optic nerve atrophy, due to spinal disease, we have such a clear clinical picture that we are not likely to err in our diagnosis. In the rare primary atrophy of the optic nerve, however, we may easily err and confound it with chronic glaucoma. Hence these cases should be carefully followed for a length of time. The condition of the iris and pupil is not always diagnostic. A chronic glaucoma may go on to blindness without affecting the reaction of the iris to light. The pupil may be perfectly round and yet the iris be dilated and movable. The condition of the anterior chamber is not always diagnostic, for, though generally shallow in chronic glaucoma, it may regain its normal depth.

I have seen the diagnosis of glaucoma made from the presence of arterial pulsation. This I consider a mistake. The arterial pulsation is probably often present when not visible. When present in connection with the other symptoms, I regard it as a grave symptom, indicating the possible occurrence of retinal hemorrhage after iridectomy.

The question of tension is probably the most difficult one to settle in chronic glaucoma. Schweigger says that there are *physiologically hard* and *physiologically soft* eyes, and that he does not recognize any normal limit for the tactile hardness of eyes, because the resistance to the finger depends not only on the intra-ocular pressure, but also on the resisting power of the sclerotic, which is very different in different individuals and at different points. In simple chronic glaucoma the increase of tension is very apt to appear in a sudden attack, which at first lasts a brief period and then disappears; but as the disease becomes more chronic, the increase of tension occurs more frequently and lasts longer, until in the pronounced cases it is a permanent feature.

*In What Class of Cases of Simple Chronic Glaucoma is Operative Interference Not Advisable?*—This question may perhaps be best answered by a process of exclusion.

My experience with sclerotomy has not been satisfactory. It has not in my experience given lasting results, though it may be regarded in a measure as preparatory to iridectomy in cases with very high tension, or, in very nervous, uncontrollable patients, as a palliative. What little I have to say under the head of operative interference will therefore be confined to iridectomy.

Simple chronic glaucoma should always be operated on early in the disease, before much contraction of the field has occurred. The operative effect of iridectomy is more certain and undeniable the earlier it is done. The slightest narrowing of the field, whether for form or color, demands operation once our diagnosis is made. The curative action of iridectomy stands in direct proportion to the increase of tension. Early iridectomy, while the iris is still mobile, the field but little contracted, and the cupping of the disk slight, commonly arrests the disease, at least for a prolonged period, and preserves what sight remains. *Done early*, it offers the best prospect for the arrest of the process, and its effects are either permanent or very prolonged. If the tension is lowered after iridectomy, a favorable result is to be expected. If the tension remains high after operation, we must look for an unfavorable result. If, under the use of myotics, the vision improves and the field widens, it is almost certain that an iridectomy will give a good result. If, in spite of myotics, the visual acuity remains stationary and the field does not improve, the effect of the operation will be less favorable.

In advanced chronic glaucoma with great contraction of the visual field, marked impairment

of the vision, undoubted increase of tension and deep cupping of the disk, the prognosis for operation is more than doubtful; it is distinctly unfavorable, and iridectomy should not be done. In those cases in which the contraction of the visual field has approached close to the fixation point, even though the central vision is still good, iridectomy is positively contra-indicated; for the contraction of the field is not arrested, is often made immediately worse, and may be followed by total loss of central vision.

*What Can Be Done for Those Cases in Which Operation Is Not Advisable?*—Something there is in the way of treatment which may retard the progress of the disease, even though it does not effect a cure. If we can bring about contraction of the iris and lower the intra-ocular tension, even though the field may not be widened nor the vision improved, we at least render the progress of the disease more slow, and for a time maintain the vision at the existing standard. For these results we rely mainly though not entirely on myotics. These are of no use unless they contract the iris and lower the tension. They can never bring about a radical cure. Hence they are of little use in old, advanced cases of glaucoma, in which the iris is atrophied. Of the two myotics, eserine and pilocarpine, eserine is the more powerful agent, but it is the more irritating and tends to develop ciliary congestion. Its use is best combined with cocaine, which contracts the caliber of the ciliary blood-vessels and diminishes the sensibility of the ciliary nerves. It should be remembered that the congestion of the ciliary processes induced by eserine often entirely defeats its desired effect, and, moreover, its prolonged use tends to cause a follicular conjunctivitis in many eyes. The combined effect of eserine and cocaine is myosis with reduction of tension, due to the paralyzing influence of cocaine on both nerves and vessels, which prevents the swelling and congestion of the ciliary processes induced by the eserine. Eserine should be used in the minimum amount and with the minimum frequency which suffice to contract the iris and keep it contracted. The form in which we use the drug is a matter of some practical importance.

The salicylate and hydrobromate compounds are more permanent and less changeable in solution than is either the sulphate or hydrochlorate. When the effect of the eserine in contracting the iris and lowering the tension has been produced, it is well to continue these effects by the use of pilocarpine. Another point to be remembered is that eserine sometimes fails to lower the tension, while pilocarpine succeeds. Wicherkiewicz thinks that this is probably due to the following existing conditions: In a highly developed condition of Müller's fibers of the ciliary muscle, eserine causes marked swelling of the ciliary processes. If in such a case there are a small eyeball, a narrow circumferential space, and a large lens, eserine may bring about complete closure of the space between the vitreous chamber and

the posterior chamber, which causes marked obstruction to the exit of fluid from the vitreous into the anterior chamber. This condition does not occur when pilocarpine is used. Hence after the eserine has drawn away the iris from the angle of the anterior chamber and has lowered the tension, it is wise to change to pilocarpine, and allow the congestion of the ciliary processes to subside.

The primary effect of the eserine may be assisted by a hypodermic injection of morphine, five to eight minims of Magendie's solution, which lowers the blood-pressure, lessens secretion and promotes contraction of the iris. I am in the habit of beginning with a solution of eserine salicylate, gr.  $\frac{1}{10}$  to  $\frac{1}{4}$ , and cocaine hydrochlorate, gr. ij, and after two or three days' use of this solution, instilled two or three times a day, I change to a solution of pilocarpine hydrochlorate, gr. ij, and cocaine, gr. i, used with the same frequency. If I find after a time that the iris tends to dilate or the tension to rise, I revert to the use of the eserine solution for a few days.

Some of the preparations of pilocarpine contain an impurity in the form of *jaborine*, an isomer of pilocarpine, which has a mydriatic action on the iris. This is not a definite single compound, but a mixture of pilocarpine with closely-allied alkaloids, like isopilocarpine. Attention has been called to this point recently by Lilienfeld (*Centralblatt für prakt. Augenheilkunde*, May and June, 1901), who suggests that the pilocarpine preparations should be first subjected to careful physiological tests, before being placed on the market. This would minimize this danger.

I have occasionally found that gentle massage of the eyeball has been followed by improvement in the vision and deepening of the anterior chamber, and I therefore advise it twice a day as a part of the routine treatment. Before instituting any local treatment, these eyes must be carefully examined for any refractive error, and, when found, this must be fully corrected by glasses. The habits of life of the patient should be regulated as far as possible, and all excesses of every kind should be avoided. The eyes should be employed in close work as little as possible, and with frequent periods of rest. If there be a tendency to constipation, this should be regulated, for it is well known that aperients sometimes produce a very decided effect on the tension and congestion of the eye. Avoidance of everything tending to the production of anxiety or mental disturbance is an additional precaution to be distinctly impressed upon the patient.

Regular hours and habits, and sound, refreshing sleep are all important in the management of this rather hopeless class of cases. Any existing gouty or rheumatic tendency should be treated by appropriate remedies, preferably the sodium salicylate, alternating with alteratives and strychnine.



A RESUME OF THE SUBJECT OF ACTINOMYCOSIS,  
WITH REPORT OF A CASE OF ACTINO-  
MYCOSIS ABDOMINALIS.<sup>1</sup>

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AND  
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THE polymorphous fungus causing this lesion belongs to the general group of *Oöspora* and was first recognized by Von Langenbeck in 1845. In 1857 Lebert described a case of thoracic actinomycosis observed by Louis in 1848, and published illustrations of the actinomycetes in his Atlas. He believed, however, that these fungi were the detritus of cysticerci.

From 1868 to 1875 Rivolti and Perroncito demonstrated that the so-called sarcomata of the jaws of cattle were due to actinomycetes; Bollinger, at the same time, recognized the characteristic fungus in "lump jaw" in cattle, and referred it to the botanist Harz, who classified and gave to it the name of *Actinomycosis*.

Actinomycosis in human pathology dates from the works of Israel in 1878, when this author and Ponfick recognized the identity of bovine and human actinomycetes, even before the transmissibility of the disease had been proven by inoculation experiments. These latter were not successful until 1880, when Johnne produced the disease in a cow inoculated with some of the actinomycotic granules obtained from an animal of the same species. In 1883 Israel successfully inoculated the human actinomycetes into a rabbit.

During the decade from 1880 to 1890 there were published two important articles, i. e., the classical monograph of Israel in 1885, with a report of 37 cases of human actinomycosis, comparatively little having been added since; the second article was published by Böstrom, in which he paid special attention to human actinomycosis, and the transmissibility of the disease through vegetable life. During the past decade much interest has been aroused in France, and among the best of the numerous publications is the exhaustive monograph of Poncet and Berard. To-day the American literature on the subject is very extensive, the disease no longer being regarded as of infrequent occurrence.

A great variety of names has been proposed for the fungus, and it has often been confused with Madura foot. The true distinction, however, between Madura foot and the group of pseudo-actinomycoses was clearly established by Blanchard in 1895.

In infected tissue, contents of abscess cavities, or discharge from fistulous passages, the actinomycetes are usually present in the form of small, yellowish, more or less opaque granules, in size from .15 to .75 mm., although larger granules often occur. They are usually grayish-white, transparent, easily broken up, and of the consistency of soft jelly. As they get older, the gran-

ules grow more opaque and yellow, and, finally becoming impregnated with calcium salts, give rise to structureless concretions.

The actinomycetes stain readily with ordinary basic aniline dyes, are not decolorized by Gram's method, are facultative anaerobes, and grow upon most of the common bacteria culture media. The best temperature for their growth is from 33° to 37° C. Even under the best of conditions their development in culture is slow, requiring from five to fifteen days. Very often actinomycetes are commingled with other micro-organisms. These latter usually grow more vigorously, and tend to obscure the former. The most common of these micro-organisms are staphylococci, streptococci, the colon bacillus and leptothrix buccalis.

Actinomycetes possess a surprising ability to develop upon cereals and vegetable media in general. At 45° C. the growth of the fungus is arrested, and it is rapidly destroyed at 60° C. The spores are more resistant to injurious agencies than is the mycelium, although less so than the spores of bacteria. Greater resistance to noxious agencies is possessed by the spores grown upon cereals, experiments by Berard and Nicolas showing that some spore had lived as long as four years upon certain cereals even under unfavorable conditions.

There are a few cases in record in which it seemed probable that man had contracted the disease from animals, but it would appear that prolonged, intimate and close contact is necessary, which seems to indicate that the virulence and infectiousness of the actinomycetes are diminished in animal organisms.

The consensus of opinion is that the great carriers of actinomycotic contagion are the different forms of cereals, especially barley, and that through their agency both man and the domestic animals become infected. Pieces of cereal grains have been found in the focus of infection. Vegetables, especially those grown above ground, may also convey the organism to man and to animals.

Men are much more frequently infected than women, probably as a result of their being more exposed to infection. Of 357 cases of human actinomycosis collected by Hutya, one-third occurred in the third decade of recognition of the disease.

Four chief avenues of infection have been distinguished, viz: (1) through the mouth and pharynx; (2) through the respiratory tract; (3) through the gastro-intestinal tract; (4) through skin-wounds, etc. There is also a group of cases in which no definite portal of entry is discoverable.

Microscopically, a focus of actinomycotic infection is characterized by a central zone that contains the fungus, either free or attached to the foreign body by means of which it gained access to the part. This zone usually contains more or less cellular detritus and the products of degeneration. The blood-vessels in the immediate vicinity of the focus are rarely obliterated.

<sup>1</sup> Abstract of a paper read at the semi-annual meeting of the Medical Society of the State of New York, October 16, 1901.

All the actinomycotic lesions can be divided into two great classes: (1) The neoplastic type, which is usually found in horses and cattle; (2) the inflammatory type, usually found in man and hogs.

The neoplastic type is the form in which spontaneous recovery not infrequently occurs. In the inflammatory type the process of destruction exceeds that of defense both in rapidity and in intensity, and tends to the production of sinuses but not of large abscess cavities. These latter are usually the result of secondary infections.

The muscles and bones afford a very unfavorable medium for development or extension of actinomycotic foci. The tendency to the formation of fistulous passages is very characteristic, the discharge presenting marked differences. In some instances it is serous, in others sero-purulent and in still others distinctly purulent. Secondary infection exists in practically all fistulous cases. Another characteristic feature of actinomycotic lesions is the tendency to extend by continuity rather than by metastasis.

Poncet and Berard propose a division of actinomycotic infections into the following groups: (1) Cervico-facial; (2) thoracic; (3) abdominal, and (4) cutaneous; foci in bone, the spinal column, the genito-urinary organs, the brain, special organs of sense, etc., being regarded as complications.

Statistics prove that about 55 per cent. of the cases are of the cervico-facial type; 20 per cent. thoracic and pulmonary; about 20 per cent. abdominal and about 5 per cent. of a variety of types.

There has never been a definitely authenticated case of primary abdominal actinomycosis reported which did not originate from the gastrointestinal tract, adhesions and abscesses being the characteristic features, the abscesses always resulting from a secondary infection. The actinomyces gain access to the stomach either with animal or with vegetable food, most commonly the latter. Neither the gastric juice nor the bile appears to have any very decidedly harmful effect upon the fungus. The different portions of the alimentary tract then seem to be affected in direct proportion to the length of time that the intestinal contents remain in the different parts.

Intestinal actinomycosis appears first as a small nodule in the submucosa. This undergoes degeneration at its center, and presently gives rise to a small ulcer with undermined edges which may extend either by progression or by confluence of several small ulcers, which, in certain instances, heal and leave irregular pigmented scars. As the process extends there is a distinct tendency for the involved portion of the intestine to become adherent to other portions of the intestine, the abdominal viscera or the abdominal wall, preventing, in most instances, a perforation into the general peritoneal cavity. When the process originates from the colon, i.e., a portion of intestine not provided with a mesentery, retroperitoneal abscess is not an uncommon complication.

In some instances the intestine adherent to the abdominal wall has perforated externally, forming a fecal fistula. Perforation into the bladder is of rare occurrence, although cases have been reported by Böstrom, Hesse, Billroth and others. The prostate has, in a few instances, been involved by extension of the disease from the rectum. In women the pelvic viscera have sometimes been extensively involved by extension of the process from the primary intestinal focus. In all the literature Grill was unable to find a single authentic cases in which abdominal actinomycosis had extended through the lymph-channels. Metastasis, in the great majority of cases, takes place through the veins rather than through the arteries. Among the secondary lesions of abdominal actinomycosis those of the liver are the most frequent, involvement occurring either by continuity, contiguity or metastasis. In 20 of the 30 cases of hepatic actinomycosis collected by Aribaud the primary focus was intestinal.

In from 50 to 60 per cent. of abdominal actinomycosis the primary focus is in the cecum, appendix, or contiguous portions of the ileum and colon i.e., in the right iliac fossa; in from 10 to 15 per cent. of the cases in the rectum. In comparatively few cases has the primary focus occurred in the small intestine. There thus remain a certain number of cases in which the primary focus is undetermined, even though careful postmortem examinations have been made.

Grill has distinguished three typical periods in the course of abdominal actinomycosis: (1) The initial period; (2) the period of tumor formation; (3) the period of fistula. To these three periods Hinglais has added a fourth—a period of repair. Although in certain cases this or that period may predominate or be entirely absent, nevertheless the periods mentioned are usually characteristic of the disease when localized in the abdomen. Pain, while usually present, is rarely severe, being rather a sensation of tension and discomfort.

In rectal actinomycosis the fistulae usually open about the anus and occasionally in the loin or above the pubis. Spontaneous recovery is possible, even though there be extensive infiltration of the abdominal wall with numerous fistulae.

The duration of the disease is quite variable—from a few weeks to several years.

The prognosis in abdominal actinomycosis, even though the process be extensive, is not necessarily hopeless, for there are on record a large number of cases in which recovery resulted. In general one can say that those cases offer the best prognosis which are most amenable to surgical treatment, i.e., the abdominal form rather than the thoracic. The oldest cases are most unfavorable because of the possibilities offered for extension or metastasis. In 77 cases of abdominal actinomycosis treated surgically Grill found 22 recoveries, 10 improvements and 45 deaths.

It is practically impossible to recognize abdominal actinomycosis in its earliest stage, al-



though examination of fecal matter has, in a few instances, led to a comparatively early diagnosis. In the later stages, when tumefaction is extensive, with foci of suppuration and numerous fistulae, and the discharge contains characteristic granules, diagnosis is comparatively easy. Sarcoma, carcinoma and tuberculosis of the cecal region must also be considered in differential diagnosis.

Greater care in the selection and preparation of cereals and vegetables would certainly diminish the number of infections by this avenue. Since thorough cooking destroys the spores of actinomycetes in flesh, prevention of the infection from this source would appear to be comparatively easy.

Therapeutically a so-called specific for actinomycosis has never been discovered, although iodide of potassium possesses certain qualities which bring about favorable results. In general, iodide of potassium appears to act more satisfactorily and effectually the earlier in the course of the disease it is administered and in large and gradually increasing doses. Experiments have shown that it has little or no effect upon the growth of the actinomycetes on artificial media.

Billroth, Kahler and others have tried the effect of tuberculin, improvement seeming to have followed its employment in a few instances. An interesting fact brought out by Kahler, Illich and Wolff, and confirmed by Arloing, is that men and animals infected with actinomycosis react to Koch's tuberculin the same as do cases of tuberculosis. Ziegler has reported a favorable result following the injection of protein obtained from cultures of the staphylococcus pyogenes aureus. Gautier has seen favorable results follow the use of electrolysis, and Braum recommends the use of Fowler's solution. In general, however, combined medical and surgical treatment would appear to have produced the best results, especially in the forms of actinomycosis more superficially placed.

It is frequently difficult to determine the extent of the process and consequently the extent of surgical intervention required. Careful exploration of the fistulae and foci should be practised, so far as possible, with the removal of as much diseased tissue as consistent. If apparent recovery occur, the case should nevertheless be watched for several years because of the great possibility of recurrence.

**Case I.**—A. S., Castleton, N. Y., aged forty-five years, native of United States; carpenter by occupation; married. Admitted to Albany Hospital, February 22, 1901. Provisional diagnosis, sarcoma of cecum or mesentery; corrected diagnosis, actinomycosis abdominalis. Treatment, operative and medical. Family history good. Patient had usual diseases of childhood; typhoid fever at the age of fifteen; was very ill, but made a good recovery. Denies venereal disease of any kind. Patient has partaken sparingly of stimulants; smokes and chews tobacco somewhat excessively; has associated much with animals;

never worked in grain. General health always good; no serious injuries.

Present illness began November 27, 1900. While at work had pain in stomach; however, finished day's work and then tried various remedies without relief. Had sharp cramps in lower portion of abdomen; very severe for three or five minutes, recurring at first every half hour or so. Did not obtain relief for a week, although under the care of a physician. Pain gradually diminished, but did not disappear for eight weeks from onset. No chills, fever or vomiting, but slightly nauseated. Pain not localized nor radiating, but seemed to patient to be in abdomen. No jaundice; no distention of abdomen that patient ever noticed. Bowels and kidneys normal in functions.

January 1, 1901, patient was able to be up and around and improved quite rapidly. Middle of January he superintended an ice gang. February 1st, as well as usual, and had regained normal weight. February 20th, still feeling as well as ever, but noticed a small tumor in region of umbilicus, for which he came to the Albany Hospital February 22d, under my care.

**Physical Diagnosis.**—Distinct tumor, size of a fist, in right iliac region; smaller tumor, inflammatory in character, evidently containing pus, at umbilicus; smaller masses to be felt through and in abdominal wall, giving an impression of sarcoma of the mesentery. Heart, lungs, spleen and stomach normal. Liver dulness extended about one finger-breadth below costal margin. Skin over tumor red, with yellow spot in center. Urine amber, 1030, acid, no albumin nor sugar, sediment slight, and a very large number of calcium oxalate crystals present. Blood examination revealed leucocytes, 18,500; red cells, 4,710,000.

**Operation** February 28, 1901: Abdominal incision 6 cm. long in median line. Peritoneum found adherent to coils of small intestines in various places, with a flattened tumor, size of half a hand, springing from right iliac crest. While supposed to be a case of multiple sarcoma of the mesentery, it differed from any case I had ever seen. There was a distinct hardening of this portion of the peritoneum extending to the umbilicus, along the course of the urachus and round ligament of the liver, with an abscess presenting just under the skin. The latter was not opened for fear of infecting the peritoneum. Incision in peritoneum closed with fine silk, continuous sutures; wound closed with interrupted silk-wormgut sutures and iodoform gauze introduced in lower end of incision, then standard dressing. The gauze was removed on the fourth day, and drainage encouraged thereafter, the abscess of the umbilicus having opened and discharged a creamy, flake-like substance. Specimens of discharge and tumor were saved, but lost later, and did not reach the Bender Laboratory for examination.

The patient was put upon syrup of hydriodic acid, strychnine and elixir of calisaya, with as good nourishment as possible.

Not feeling at all certain of my diagnosis and fearing the possibility of actinomycosis, about April 1st I asked Dr. Elting to look the patient over carefully and make a thorough examination

drops in a wineglassful of water before each meal, increasing three drops each day until sixty drops were reached and this dose continued.

May 1, 1901: Condition has improved some-



Fig. 1. Abdominal actinomycosis. August 3, 1901.

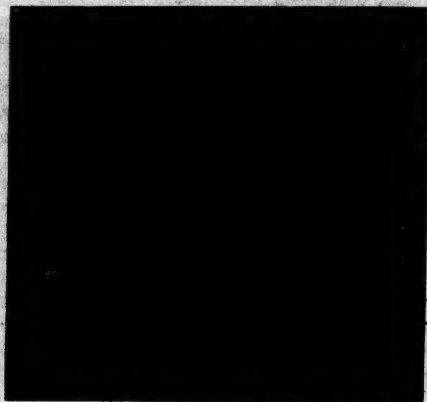


Fig. 3. The same. October 12, 1901.

of the discharge. This was done and the case found to be one of typical actinomycosis. Cover-slips stained by Gram's method showed the characteristic fungi. Cultures from several of the ab-

what, although it was necessary on two occasions to open abscesses in the abdominal wall. Less numerous actinomycotic granules in discharge than before the administration of iodide of potassium was begun. Large tumor still in right

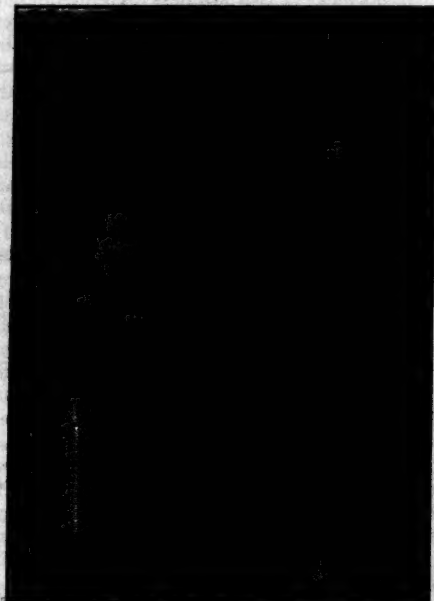


Fig. 2. The same.

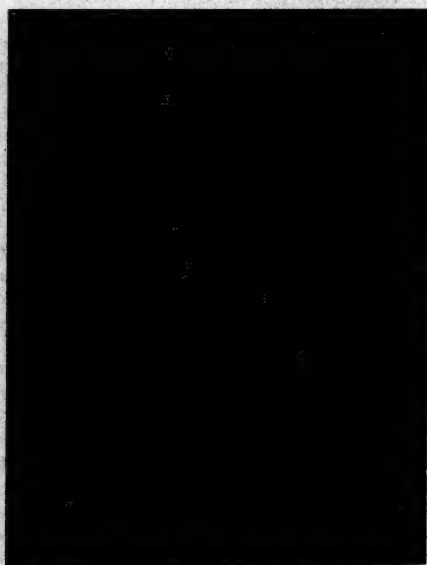


Fig. 4. The same.

scesses showed so vigorous a growth of the bacillus coli communis, that the growth of the actinomyces was obscured. The patient was now given iodide of potassium in increasing doses, i.e., a saturated solution, commencing with three

lower quadrant of abdomen, extensive induration and infiltration of abdominal wall, and four fistulous openings.

June 15th: Patient's general condition not quite so satisfactory as at previous note. Three



discharging sinuses in abdominal wall, the discharge seropurulent, and containing a moderate amount of actinomycotic granules. Appetite good—no gastrointestinal symptoms. At patient's request he was discharged from the hospital and advised to continue the large doses of iodide of potassium.

June 29th: Patient re-admitted to hospital for further observation. General condition somewhat improved, but there are more discharging sinuses than at last note. Condition at this time indicated by accompanying photographs. (Figs. 1 and 2.)

August 20th: Patient returns feeling much better than when seen about three weeks ago. Condition of abdomen distinctly improved. Some of the sinuses closed, and the discharge from the remaining ones decidedly less. Patient says two weeks ago a small pimple or blackhead developed on right side of the nose, near inner angle of eye. This was squeezed by his wife, who had attended to the abdominal wounds. Forty-eight hours later patient noticed some pain and swelling about nose, which gradually increased, and a tumor the size of a hen's egg developed, which almost entirely closed the right eye. Hot applications were employed and about a week from onset tumor broke and discharged considerable pus. There still remains a tumor the size of a large pigeon's egg, the skin near and around presenting a livid appearance. Discharge seropurulent and containing a few typical actinomycotic granules. Potassium still continued.

September 20th: Patient returns feeling much improved. Abscess of nose entirely healed. Abdominal condition much improved. There are still a few actinomycotic granules in discharge from sinuses in abdominal wall.

October 12th: Patient shows still further improvement. Has been doing light work for several weeks past. Color good and general appearance excellent. Four or five discharging sinuses in abdominal wall, containing a small amount of discharge, with an occasional actinomycotic granule, mostly in an early stage of development. Condition of patient's abdomen at this time indicated in Figs. 3 and 4.

If this case is studied carefully it is very striking to observe the characteristic conditions that have been described by many authors, i.e., the tumors to be felt in the peritoneal cavity and in the abdominal walls, the peculiar reddish-blue appearance of the surface of the abdomen, the multiple abscesses containing yellowish pus and granules. All of these conditions are indicative of actinomycosis; also the patient's improvement for a time after operative intervention and still further improvement when getting under the full effect of the iodide of potassium, the infection of the nose, and the rapid recovery, all aid in confirming the previous diagnosis.

The photographs illustrate very nicely the appearance of the patient when improvement had commenced, and still later on when in a condition of convalescence.

## MEDICAL PROGRESS.

### SURGERY.

**The Treatment of Tuberculous Peritonitis.**—With the facility with which surgeons enter the abdomen comes the question whether they have not overreached their abilities to do real good in some conditions. C. FERGUSON, in speaking of the operative treatment of tuberculous of the peritoneum (*Ann. of Surg.*, Dec., 1901), says that the difference between a laparotomy and a puncture, with regard to its effect on the exudate, is probably more apparent than real. From the nature of the disease it seems that the termination of its progress is the main factor in the improvement. It is immaterial, therefore, by what method evacuation is secured. The frightfully disappointing results of radical surgery in peritoneal tuberculosis, curetting, excision of tuberculous tumors in the omentum, the breaking up of adhesions and the removal of mesenteric glands must teach us that Nature cures tuberculosis of the peritoneum better than the surgeon, and it seems well established that, as Borchgrevink puts it, serous tuberculous peritonitis is a territory which surgeons must hand back to the internal medical clinic with thanks for the splendid opportunity which a misunderstanding gave to the profession by means of laparotomy to study tuberculosis in one of the large cavities of the body.

**Peritoneal Tuberculosis.**—The diagnosis of this disease differs in children and adults. The points to be remembered in children, says D. N. EISENDRATH (*Ann. of Surg.*, Dec., 1901), are abdominal symptoms, namely, distention, pain, disturbed action of the bowels, presence of fluid and emaciation, with irregular fever. If the ascites is sacculated instead of diffuse, the diagnosis is still more easy. Cirrhosis of the liver is rare before nine years of age and occurs usually in syphilis, with more or less jaundice. Irregular tumors may be present and chronic abscess opening at the navel is suspicious. Family history may aid. In adults, without an exudate, the diagnosis can even be made from the presence of a single or many irregular tumors of the omentum. Multiple carcinoma must not be forgotten and transverse tumor of the omentum must be distinguished from tumor of the stomach. Tumors posterior and lateral to the uterus with symptoms of slow inflammation always suggest tuberculosis by the rapid growth of the effusion; coincident pleurisy, greater degree of gastro-intestinal disturbance, irregular hardness along the edge of the tumor are distinguished from cysts of the ovary. With the cervix drawn and held, a bimanual examination through the rectum and the abdomen would distinguish a cystic tumor if connected with the cervix and an ovarian cyst by its pedicle. Occasionally tubercle bacilli appear in the curettings. When the ascites is free we distinguish it from that due to cirrhosis of the liver by the presence of alcoholism or the history of syphilis and by the character of the fluid withdrawn. Cirrhosis of the liver and tuberculosis of the peritoneum may occur in the same patient and then render diagnosis very difficult. Similarly, non-tuberculous and true tuberculous peritonitis are always impossible of certain distinction. When the family history is good and there are no signs of tuberculosis elsewhere, no tenderness or excessive amount of fluid, the chances are that the case is non-tuberculous.

**Tuberculous Appendicitis.**—This is a well-known though an uncommonly recognized form of appendicitis. E. W. ANGEWS (*Ann. of Surg.*, Dec., 1901) considers that it must be distinguished from all the

other forms of appendicitis, from exudate and residuum, from diseases of the adnexa, from intussusception, from actinomycosis, and from carcinoma and sarcoma. Of these but two among the various forms of appendicitis and malignant disease of the cecum are very common and no distinction can be drawn in many cases until the abdomen is opened. The treatment in important cases is in the nature of an emergency operation. Its phases are as follows: (1) Laparotomy for simple exposure, as in other forms of tuberculous peritonitis; (2) excision of masses in the omentum with breaking up of the adhesions; (3) artificial anus; (4) partial removal of the whole of the cecum or plastic operations thereon; (5) lateral anastomosis or partial exclusion; (6) resection of the cecum with end-to-end anastomosis or total exclusion. This last method has been repeatedly done and is certainly an ideal manner of dealing with tuberculous and cancerous tumors in or immediately about the cecum. The mortality is 16½ per cent. for all of the aforementioned methods of operation.

**Obturator Hernia.**—The operative treatment of this rare form of hernia must be considered under two heads, which R. J. GLADSTONE (Ann. of Surg., Dec., 1901) calls the intra- and extra-abdominal methods. Exploration is practically the aim in all these cases. Some complications of the rupture may easily be reached without opening the abdomen, but probably the difficulties of the case will justify such a step. The external operation has the great disadvantage of a dangerous proximity to the large vessels of the lower extremities and furthermore a deep, narrow field. The intra-abdominal method, on the other hand, through a median incision low down, avoids all of these conditions and adds the advantage of making an artificial anus in the lower part of the wound in cases of strangulation. In the anatomy of this form of hernia it must be remembered that it never receives any covering from the pelvic fascia, because the proper line of attachment of the obturator portions of this fascia passes below the obturator canal, where it forms the lower boundary of this passage by blending with the upper border of the obturator membrane. The second point of anatomy is that the obturator artery divides and the two branches of the obturator vein unite immediately below the sac; hence, in cases of strangulation of the hernia, great care must be exercised in dividing the tissues. A single, free, downward and inward cut would almost certainly divide these vessels.

**Duodenal Ulcer and Its Surgical Treatment.**—The cardinal symptoms of duodenal ulcer are pain, hematemesis, melenia. Its chief complications are profuse hemorrhage, perforation (acute, subacute or chronic), cicatricial contraction, and its sequelae, periduodenitis, cancer. In 20 fatal cases 9 patients died of hemorrhage, 8 of perforation and 3 of cicatricial contraction of the duodenum or bile-duct. The symptoms of acute perforation, as described by B. G. A. MOYNIHAN (The Lancet, Dec. 14, 1901), are sudden, overwhelming pain, rigidity and tenderness of the abdomen, profound collapse. After the first shock has passed, the symptoms and signs of gastric and duodenal perforation differ in their development. In gastric perforation the signs are those of general peritonitis; in duodenal perforation the course taken by the extravasated fluid leads to a more acute and an earlier involvement of the peritoneum on the right side and in the right iliac fossa. The clinical picture of appendicitis is copied with such accuracy that in 49 recorded cases tabulated by Moynihan, in 18 the first incision was made over the appendix after a diagnosis of acute appendicitis had been made. The medical treatment of

duodenal ulcer should be carried out with the same care as in treating gastric ulcers. Surgical treatment may be called for (1) when an acute ulcer perforates; (2) when subacute or chronic perforation leads to periduodenal or subphrenic abscess; (3) in chronic ulcer when pain and gastrorrhagia or enterorrhagia are persistent and disabling; (4) when cicatricial contraction and induration or periduodenitis have caused narrowing of the caliber of the gut and dilatation of the stomach.

**Extent of Permissible Resection of the Intestines.**—How much and what portions of the intestine can be removed without endangering health and life? This question can be answered either by animal experimentation, by records of operated cases showing the later condition of the patient, or by experiments in metabolism in human subjects following intestinal resections. In endeavoring to answer the question A. ALBU (Berl. klin. Woch., Dec. 16, 1901) calls attention to the more or less definite ratio between body-length and length of intestine. Beneke reckons 387.5 cm. of small intestine (omitting duodenum) for each 100 cm. of body-length. Estimating the length of the intestine in this wise (for the surgeon cannot measure the intestine even when it is exposed), Abu believes that to remove more than a third of the small intestine is to render impossible the proper nourishment of the patient.

**Surgery of the Urinary Organs.**—Eleven cases of nephrectomy for tumor in young children are discussed by T. R. JESSOP (The Lancet, Dec. 14, 1901). Nine of these patients were operated upon by the lumbar route, which route the writer regards as applicable in all cases in which the tumor can be brought whole through the lumbar incision. While nine subjects recovered, the longest survivor lived scarcely two years and a half. In only three instances was there an opportunity to see the child near the end and in each of these there was undoubted evidence of recurrence. These results being neither better nor worse than those reported by other surgeons, Jessop is not disposed to recommend strongly the operation of nephrectomy in children suffering from malignant growths of the kidney. The difficulty lies in making an early diagnosis; the only prominent signs of the disease in young children are the presence of a tumor and the occurrence of hematuria. The latter sign unfortunately is not constant and when the former sign is present the disease is already far advanced. Nephrectomy in adults gives better results; in most cases the operation is performed for conditions other than malignancy, and even in malignant disease the degree of malignancy is less and the liability to diffusion and return is diminished. Jessop cites six cases of renal tumor in adults, with two recoveries and four deaths after operation. A typical case of recovery was that of a man, aged fifty-six, whose chief symptoms were frequent micturition, hematuria, and a dull aching pain in the left loin, this region being filled by a large growth; pallor and loss of strength were marked. Statistics which merely compare the percentage of recoveries in nephrectomy by the transperitoneal route with that of operations by the lumbar method are misleading; the least promising cases (those presenting the largest tumors) are the ones usually approached transperitoneally. It is, however, important to remember that in the transperitoneal route the peritoneum is twice incised, while in the alternative operation this membrane is not necessarily wounded at all; this consideration is of prime value in cases of suppuration, the lumbar route being imperative in such cases, as also in all cases which present no such difficulties as are due to the mobility of



the organ to be removed or to its extreme size. In performing nephrolithotomy in five cases by the method of Henry Morris, Jessop had no difficulty in controlling hemorrhage and no subsequent urinary fistula. In dealing with stone in the bladder the choice lies between litholapaxy and suprapubic lithotomy; in a perfectly-uncomplicated case the former is preferable as involving less mutilation and a briefer convalescence. But litholapaxy is negatived by advanced stricture of the urethra, advanced prostatic disease (here the suprapubic operation affords the additional advantage of dealing radically with the prostate), pronounced cystitis of long standing, encysted calculus, calculi too large to be crushed. Perineal lithotomy is considered by Jessop to be all but relegated to the past.

**Surgery of the Mediastinum.**—Operations about the large structures of the body, especially those of the chest, are rather new in the domain of surgery. The following conclusions are arrived at by Prof. Enderlen (*Deut. Zeitschr. f. Chir.*, Nov., 1901). The position of the esophagus is highly variable even in the normal subject, with reference to the spinal column or leaves of the pleura, particularly on the right side, and to the aorta. The approach to the esophagus is most convenient on the left side if above the level of the bifurcation of the trachea, on the right side if at the level of the fifth or sixth thoracic vertebra, and again on the left side if from this point downward as far as the diaphragm. On the whole, the best form of incision is either a curved or a rectangular one with the base directed toward the spinal column. The application of operations on the posterior mediastinum is very limited and, with respect to the final safety of the patient, should be assigned particularly to foreign bodies which cannot be removed by any other and safer means, or which have certainly perforated the esophagus, and also to the cure of that rare form of diverticulum in the lower part of the esophagus, which usually defies all palliative treatment and cannot be induced to close by means of adhesions. As a primary aid to an operation upon the esophagus in this region gastrostomy must be done. Clean cut wounds of the esophagus can usually be sewed and heal promptly. Otherwise packing and secondary healing must be resorted to. Wounds of the pleura during operation must be closed first with packing while the operation is in progress and later can be sewn up. Further application of the operation of posterior mediastinotomy concerns abscesses which have their origin in the bones of the spinal column or ribs, or in the esophagus itself. Finally lung abscesses localized in this region may be approached through this channel.

**X-Ray Burns.**—With the value of the X-rays as a means of diagnosis there has been found the danger of causing certain forms of skin trouble after prolonged exposure. T. W. HUNTINGTON (*Annals of Surgery*, Dec., 1901) reviews this subject and states that the usual process is subacute or chronic necrobiosis. The cause of this death of skin-tissue depends upon an irritation of the peripheral sensory nerves, with a secondary paralysis of the vasomotor system of the affected area. Spasmodic contraction of the small blood-vessels follows. Nutrition of the cells is impaired and then their death becomes the logical result. A peculiar, progressive gangrene has been known to appear four weeks after exposure. It began in the center of the affected area and did not invade the outer limit until after four months. During this whole time there was persistent, though almost imperceptible, progression. It was found that the intima of the arterioles and veins, especially of the latter, was much thickened, and that the lumen of all was correspondingly nar-

rowed. This, it is claimed, was due to a deposit of reticular masses of delicate fibrous tissue. Similar processes were noted also in the other coats of the blood-vessels. The deeper vessels continued to perform their function imperfectly and later indicated a degenerative process also. Authorities generally agree that medical treatment of these ulcers is not at all satisfactory and usually altogether useless. From the standpoint of surgeons it must be borne in mind that a slowly-progressive degenerative process is the essence of the disease, which both superficially and vertically is without definite limitations. Symptoms attributable to hyperesthesia of the affected area are of some value, but evidence referable to this source is unreliable, owing to tardy encroachment upon what had seemed previously to be healthy tissue. It follows therefore that if the ulcer is to be excised the operation be performed with extreme boldness to the end that all tissue supplied by defective blood-vessels may be removed.

**Galvanocautery and Circumcision.**—The various means of doing this small operation seem without end. S. LÉVY (*La Sem. Méd.*, Dec. 4, 1901) brings out the method of using the galvanocautery instead of the knife. The steps of his operation are briefly as follows: Perfect anesthesia is first produced by a 1-per-cent. solution of cocaine. The prepuce is then seized in two clamps whose points approach each other at the root of the frenum in such a manner that each includes a triangle whose base takes in the lower third of the preputial orifice and whose apex corresponds with the root of the frenum. With the galvanocautery this tissue is then cut away. A dull red heat of the instrument is necessary. A third clamp is now placed so as to remove whatever more is necessary. If the temperature of the instrument has been correct the wound does not open and there is no bleeding. The operation can be done rapidly and very safely. The only dressing necessary after it is a covering of ointment with a low percentage of some antiseptic like salicylic acid or red precipitate in it. The patients as a rule can continue their vocation without interruption. The method has the advantage of uncovering the glans of the organ perfectly and also of giving the least possible deformity. Occasionally, if the temperature of the cautery has not been properly regulated, the lips of the wound will spread. Healing takes place by granulation and is usually slow, but even then the final result is good.

**Hepatic Drainage.**—Attention is called to the analogy between gall-bladder disease and appendicitis and the necessity for early diagnosis and treatment by J. B. DRAVER and E. K. MOORE (*Phil. Med. Jour.*, Dec. 21, 1901). Gall-bladder disease is very protean in character, probably more so than appendicitis. Like the latter it is a progressive inflammation with successive periods of latency and of acute exacerbations which may at any time prove serious. Gall-stones play the same part as fecal concretions, causing ulceration and stricture of the ducts. The symptoms caused by catarrhal inflammations vary widely. When the swelling of the mucosa of the ducts is not sufficient seriously to impede the flow of bile, the only symptoms are a slight enlargement of the gall-bladder with a little local tenderness, a slight rise of temperature, some malaise and anorexia. Severe grades have more alarming symptoms of obstruction and colic. The diagnosis of pericholecystitis is more difficult and confusing. Adhesions to the duodenum may cause dilatation of the stomach, adhesions to the transverse colon or other parts of the intestine symptoms of intestinal indigestions, and adhesions to the stomach may closely simulate gastric ulcer. Probably many cases of chronic dyspepsia and intestinal indigestion are caused by the

adhesions of cholecystitis and appendicitis. In general it may be said that the symptoms of gall-stone disease are occasioned either by the pericholecystitis or by defective drainage. The symptoms of the former may be relieved by freeing the adhesions, but the prevention of their reappearance lies with their cause, the defective drainage of the gall-bladder and liver. In early cases before any anatomical changes have occurred, temporizing and the Carlsbad Sprudel treatment are indicated, but when adhesions and strictures are present waiting is dangerous. When during an operation a marked change is found to be present in the gall-bladder, its removal is indicated, for this insures freedom from the disease and adds little to the gravity of the operation. It has been proved that as an organ it has very little function in man. Fistulae are done away with and the seat of the beginning of most cases of defective drainage is removed.

### THERAPEUTICS.

**Orthoform in Syphilis.**—Orthoform has been known for some time as a local anesthetic. More lately it has been used for internal administration. A. Einhorn and R. Heinz, who discovered the product, have successfully given it for the pain of round ulcer and cancer of the stomach, admitting however that the drug does not act unless the continuity of the mucous membrane is broken, that is, unless it becomes a local anesthetic. BOUVEYRON and SIRAUD (*La Sem. Méd.*, Dec. 4, 1901) have been administering orthoform in a total daily dose of two to three grams, divided into four to six powders, with success against the essential headache of syphilis. Most frequently, the smaller dose, namely, two grams in twenty-four hours, is sufficient to quiet all this rebellious pain. Usually a decrease takes place during the first night and after that the pain disappears entirely. In order to avoid recurrence it is necessary to continue the drug several days. The precise method of employing the drug necessitates a distinction between continuous and intermittent headaches. For the intermittent headaches the best method is to take a powder containing 0.50 gram of the drug about one hour before the expected time for the pain to appear and two similar powders during the latter part of the night. For the continuous pain, four such powders should be given at regular intervals; for example, every six hours. Sometimes the ingestion of this drug provokes a sensation of heat or irritation in the stomach, which may be corrected by giving an equal quantity of sodium bicarbonate with each administration. On the other hand orthoform does not quiet in any degree the dysphagia of syphilitics or other pains in the thorax, periosteum or vital organs.

**Cocaine in Morphine-Poisoning.**—A case which is interesting from several standpoints is reported by A. C. BARNES (*Phil. Med. Jour.*, Dec. 21, 1901). A girl was employed in handling finely-powdered morphine sulphate. After a few hours the symptoms of typical morphine poisoning of a very severe type set in, with pronounced cerebral, respiratory, and cardiac depression. The usual restoratives were applied without much effect. Because its primary physiological activity is that of a descending stimulation, cocaine was then employed. One-half grain of the hydrochlorate was given hypodermically and repeated in half an hour. Although almost moribund, the patient ten minutes later showed signs of returning consciousness, with increased pulse and respiration. As this did not seem sufficient, another quarter of a grain was given. This, however, was followed by signs of cocaine poisoning which subsided in a few hours, but were succeeded by stupor with slow pulse and respiration. The latter con-

dition was successfully combated with coffee, forced exercise, etc., and the patient made a complete recovery from the effects of the poisons. Care must be exercised in giving the cocaine—half a grain at half-hour intervals until consciousness returns and the respiratory and cardiac functions are sufficiently aroused.

**Urosin in Gout.**—For all cases of acute gout, but also in the subacute and chronic forms and in arthritis deformans, J. HONIGSCHMIED (*Wiener med. Blät.*, Dec. 19, 1901) has found in urosin, the quinic acid salt of lithium, a remedy which rapidly alleviates and in the majority of instances cures unless marked anatomical alterations exist in the joints. No bad after-effects were noted even after large doses. The usual administration consists in giving three pastilles during the acute stage, to be repeated in one hour if there is no relief. After this, about ten may be given daily for some time.

**Administration of Phosphorus in Cod-liver Oil.**—A great disadvantage in combining the peculiar action of phosphorus with those of the fatty oils, most particularly cod-liver oil, has been the slight stability of the solution. To render it more permanent K. DIETERICH (*Therap. Monatshft.*, Dec., 1901) recommends using oils supersaturated with carbonic acid gas as solvent. A number of experiments showed that, if ordinary phosphuretted cod-liver oil is preserved for six months, it loses in strength up to 50 per cent.; with the oil saturated with gas the difference is so slight as to be unimportant, even if the bottles are kept without stoppers. Another advantage in the use of these oils lies in the fact that they do not readily take up oxygen and hence, by not becoming rancid, retain their pleasant taste.

**Serumtherapy in Diphtheria.**—Serumtherapy is not an old method of treating disease, therefore the question of its ultimate influence upon disease is still a somewhat unsettled question. D. DE MAURANS (*La Sem. Méd.*, Dec. 11, 1901) gives an exhaustive review of serumtherapy in diphtheria, based upon statistics drawn from the reports of the Boards of Health in the chief cities in Europe from 1883 to 1900. He notes that prior to the first use of serum in 1895 the disease underwent periodical changes in virulence, so that the range in mortality in a given city was highly varied. During this period, for example, in Hamburg, in 1883, the reported deaths were 360; in 1887, 650; in 1891, 250; in 1894, 420; in 1895, 140; in 1896, 100. Independently, therefore, of the use of serum this one city indicates a wide variation in the death-rate. The last two years were, however, just after the new method was introduced. This same periodicity is present also in other infectious diseases. While he does not claim that serumtherapy is without effect upon the disease or that it is not the very best method of treatment which we possess, all factors considered, he does raise the question as to whether or not the vast improvement in the death-rate as given in the reports from 1895 up to the present may not be due to the fact that we have, during these years, been living in a time of moderate virulence of the disease. In support of this supposition he points out that in Paris from December 31, 1900, to November 30, 1901, a very rapidly-progressive increase in the death-rate had been present, from 300 to over 600. The question is certainly an interesting one, but the paper seems to lack a true scientific basis because it treats solely with the bare numbers of deaths reported, without any reference to the basis of the diagnosis, bacteriological or clinical, upon which the reports rested; to the presence or absence of mixed infection; to the seat of the disease, whether localized in a certain part of the throat or widely dissem-



inated through the upper air-passages; or to the causes of death, whether from the disease itself or from its complications or its sequelae. Without due regard to some or all of these problems any such review will certainly lack the highest scientific grounds.

**Treatment of Bright's Disease.**—In discussing the treatment of this disease, J. W. BRANNAN (N. Y. Med. Jour., Jan. 4, 1901) enumerates in general terms the restriction of the proteid diet, the prohibition of strong alcoholic drinks, the free use of diluents, especially alkaline mineral waters, and the promotion of the action of the skin and bowels. The white meat of chicken and fish should be placed upon the same basis as the red meats, the only difference being the small amount of blood in the white meat. Von Noorden prescribes small quantities of both kinds of meat. Beef extracts are really worse than is the whole meat for they contain the irritating principles in a concentrated form. As causes of acute Bright's he refers to only two, scarlet fever and exposure to cold or wet, the former being the most frequent cause in children, the latter in adults. He has noticed that acute nephritis seldom occurs in his Bellevue Hospital service, but in private practice exposure seems to be a rather common cause of this disease in adults. He alludes to the possibility that the hospital patients are more accustomed to exposures and hence less liable to sustain injurious effects from them.

**Erysipelas and Leprosy.**—Observation of two cases of leprosy which were greatly improved after an attack of erysipelas leads A. PATRON (Gac. Med. d. Mexico, Dec. 15, 1910) to raise the question of immunity to a virus by inoculation with an attenuated form of the same virus, as in the treatment of diphtheria, or with that of another specific infection. The bacilli proteus vulgaris and prodigiousus, as well as the bacillus of Eberth, have created a state of resistance to Asiatic cholera. Cures through the influence of erysipelas upon other diseases have been noted by various observers, among whom may be mentioned Bazin, Kaposi and Wolkman, who reported improvement in lupus after the onset of erysipelas; Langenbuch cites a cure of multiple sarcoma of the skin by erysipelas migrans; Muir witnessed a rapid cure, through the influence of erysipelas, of articular tuberculosis of the arm of fourteen years' duration, in which bacteriological examination had shown Koch's bacillus in quantities. All other remedies had failed to influence the condition. The author asks the coöperation of bacteriologists generally in the study of erysipelas as a curative agent, especially in leprosy, which is on the increase in many parts of America, and for which there is no cure or remedy which will stay its progress. The query is put, "Can scientific inoculation of the streptococcus erysipelatis or its toxin be used in the treatment of this disease without injury to the patient?"

#### PEDIATRICS.

**Hypodermoclysis in Pediatrics.**—A large field for this method of treatment is still open in the field of children's diseases. W. C. HOLLOPETER (Phil. Med. Jour., Dec. 7, 1901) states that its usefulness is most marked in hemorrhages of the newly-born from genitals or umbilical cord, in purpura, in marasmus, in the toxemias associated with the acute eruptive fevers, in anuria due to uric-acid infarcts, in shock, in syphilis, and in tuberculosis. The technic is briefly as follows: A sterile normal salt solution is used which must be delivered to the tissue at 106° F. The gravity bottle or a large hypodermic needle is employed. The latter is preferable, especially in young children. The best site is over the great trochanter, although the inside of the thigh may be used. Sufficient anesthesia can be

secured by a lump of ice or an ether spray. From one to two ounces of salt solution can be used at a time and from five to ten minutes should be consumed in the act of injecting it into the subcutaneous areolar tissue. In such cases in which the body is overwhelmed with fluids and toxins, as in acute nephritis, the hypodermoclysis should be preceded by a glycerin enema, which quite effectively drains the tissues, a more rapid entrance being thus provided for the subcutaneous injection.

**Whooping-Cough.**—This disease, so difficult of treatment, is the subject of a long article by E. WILL and M. PÉHU (La Sem. Méd., Nov. 27, 1901). Their conclusions as to the management of whooping-cough, especially in children, are as follows: The essential is to arrest efficiently and conveniently by any means the symptoms of the disease. Such means must be easily applicable to the child. It must be remembered that the affection is cyclic and that the duration of the attacks of coughing is rather definite. The period of the disease in which treatment must be begun is all important, but unfortunately the record of the fact as to the period of beginning treatment fails in all statistics. Another point in which statistics are deficient is how often the disease attacks patients in a hospital compared to those in private practice. In hospitals apparently contagion often leads to bronchopneumonia and to tuberculosis. It seems, therefore, that on the whole the present method of making statistics of this disease does not rest on a firm foundation. As to the actual medication in whooping-cough, two distinct indications must be met, namely, to diminish the number of attacks and to prevent infection of the bronchi. It is necessary as far as possible to leave the digestion undisturbed and therefore all medicines which tend to derange it, as, for example, quinine, should be used as little as possible. Furthermore, all drugs which may develop poisonous effects should be discarded. Bromoform is a clear example. Antidiphtheritic serum must also be condemned on account of the unfavorable symptoms which it occasionally provokes. Lastly, the medicine used must not cause the child any irritation, anger or disturbance of the nervous system. Those procedures which may be in themselves rational, but which necessitate a good deal of machinery, are always difficult to carry out on account of frightening the child. Such are intralaryngeal instillations and the various local applications of antiseptics and sedatives to the throat. Inhalations of all kinds, however, are much better. The best of these is quinolein, a derivative from coal tar, in the form of the tartrate, up to the daily dose of 0.25 gr. to 1 gm. About 100 cubic centimeters of water are taken and from 10 to 20 drops of quinolein added to it for each child under treatment. The children of the household or institution are shut in a closed room three or four times a day, where during five minutes at a sitting they are subjected to steam laden with this drug. All of the above indications are met and difficulties surmounted by this method. On the other hand, it must not be assumed that this method is a true specific for whooping-cough, but it is a very convenient and efficacious remedy.

**Tuberculous Peritonitis.**—In a clinical lecture, A. CAILLÉ (Pediatrics, Dec. 15, 1901) presented a girl, four years old, who showed a large liver and spleen and an abdomen distended and tense and dull from the umbilicus downward. The urine obtained by catheter was free from albumin, sugar or bile. The percussion dulness does not change with the child's position, and the fluid is therefore contained in the interstices of the intestine matted together by adhesions. This and the

distention, pain, disturbed bowel action and loss of weight, with an irregular rise of temperature, point to tuberculous peritonitis. Non-tuberculous serous peritonitis usually has free fluid. Paroxysmal pain in the abdomen in children is also often due to worms, intestinal indigestion, membranous enteritis or chronic appendicitis. The author distinguishes four varieties of tuberculous peritonitis, viz.: (1) chronic miliary with ascites; (2) fibrocascous; (3) fibro-adhesive; (4) tuberculous peritoneal tumors. Spontaneous cures have been reported and good results have often followed opening the abdomen when the infection is limited to the peritoneum. Medical treatment is extremely unsatisfactory.

### THERAPEUTIC HINTS.

**The Bath in Phthisis.**—In this condition the patient cannot properly respond to pouring cold water over his skin or dipping him in a cold bath, so SIMON BARUCH (Post-Graduate, Nov., 1901) advises washing him with a bath-glove and gentle friction, a small portion of the body at a time. Take a basin of water at 90° F.; put the patient on one side of the bed; place a blanket and linen sheet under him, and, dipping the hand into the water, rub him on successive parts of the body. At each application reduce the temperature of the water, and, if the fever reaches 102° F. bathe every two or three hours. The parts below the knees and elbows should be skipped, as they do not react well. "Cold water is about the poorest antipyretic I know of," but it is used to stimulate and refresh the nervous system, and thus improve the patient's resisting power. For the hectic fever, tub-baths at 90° F., perhaps reduced gradually to 80° F., with friction, are of great benefit. A good and simple method of educating and disciplining the nerves and blood-vessels of the skin to bear colder and colder water and greater and greater force, with a fruitful reaction, is to throw forcefully six to twelve dipperfuls of water at 85° F. daily over different parts of the body. There is no danger of taking cold after these baths.

**Diet in Tuberculosis.**—A diet for tuberculosis is arranged by M. EINHORN (Post-Graduate, Nov., 1901) as follows: Breakfast at 7.30 a.m., two eggs, toasted bread and butter, coffee, with half milk, sugar and cream. A glass of milk or kumyss, bread and butter at 10 a.m. Lunch at 12.30, meat (steak, chicken) mashed or baked potatoes, white bread and butter, cup of coffee with milk and sugar. At 4 p.m. the same as at 10 a.m. Dinner at 7 p.m., meat-soup, with a little rice or farina in it, meat, mashed potatoes, rice or green peas, or any other light vegetable, bread and butter. Oysters, crackers and butter, a glassful of ale or stout at 10 p.m. The diet should be carried through whether there is appetite or not.

**Early Care of Deaf and Dumb.**—When the deafness is detected, generally by the child's failure to learn to talk, the parents should talk to the child the same as before. They should encourage the child to watch their lips and their gestures and have him, as he gets older, feel with the hand the current of air issuing from the mouth as they talk, and the coincident laryngeal vibrations. Common objects should have labels affixed to them in plain print. Later he should be shown the names alone, and asked to point out the objects. The deaf-mute should be taught to dress, wash and feed himself, should have toys, and behave the same as other children. But he has a tendency to irritability and loss of self-control. Music, the soft answer, the good-humored chaff are without effect

upon him, and he is often made worse by ill-judged punishment.—W. B. DRUMMOND in *Pediatrics*, Dec. 15, 1901.

**Treatment of Pulmonary Tuberculosis at Home.**—The first order given by LEONARD WEXER (Post-Graduate, Nov., 1901) in early cases is to rest in bed till the temperature is practically normal. The bedroom is made to conform to those in a hospital by simple furniture, frequent ventilation, and plenty of light. The sputa are collected in spittoons containing a five-per-cent. solution of carbolic acid, or three-per-cent. formaldehyde, or in paper boxes which are burned. Food is given in small quantities and more often than usual. During acute fever the patient is sponged with alcohol and water three times daily, and, when improved, takes a cool sponge-bath every morning. Keeping down the high temperatures saves strength and body-weight, and to do this the author uses

R Acetanilid .....	0.06 (gr. i)
Phenacetin .....	0.2 (gr. iij)
Antipyrin .....	0.2 (gr. iij)

Hemorrhage is treated by ice application to the chest in the form of two small ice-bags, one below each clavicle, dry-cupping and the internal administration of a teaspoonful of table-salt two or three times the first day, codeine, gm. 0.015 (gr.  $\frac{1}{4}$ ), and from the second day fluid extract of arbor vitae, c.c. 4.0 (3i), three times a day. The general irritability, harassing cough, etc., should be treated for a week or two as an acute bronchitis, a valuable remedy being

R Aq. chloroformi .....	180.0 (3vi)
Sodii bicarb. ....	4.0 (3i)
Morph. sulph. ....	0.06 (gr. i)
Aq. lauro-cerasi. ....	4.0 (3i)

M. Sig.: Four to eight cubic centimeters (3i-ij) in water every three hours. When this acute stage subsides, creosote treatment may be begun. The creosote capsules have not proved so good as has the solution in an equal volume of alcohol. The patient begins with ten drops of this in half a tumbler of milk or water three times daily, an hour and a half after eating, and doubles the dose each week up to sixty drops. Dry cough may be met by codeine sulphate, weakness by strychnine, weak hearts by cardiac tonics.

**The Hemorrhagic Diathesis.**—In presenting a child of a "hemophilic" family, who had bled for five days from a wound of the mouth, and whose bleeding was checked by the actual cautery after stypticin, used locally and hypodermically, had failed, A. CAILLÉ (*Pediatrics*, Dec. 15, 1901) calls attention to the successful use of alum solution, 10-per-cent. antipyrin, or adrenal solution. Some surgeons give gm. 0.3-0.6 (gr. v-x) of chloride of calcium internally three times a day before operating on one with hemorrhagic tendencies; for instance, in gall-stones with cholemia. In the new-born, persistent hemorrhage from navel, stomach or intestine is met with. The navel can sometimes be effectively transfixed. The author has no knowledge of recoveries of newborn children after they have lost a pint of blood.

**Ophthalmia Neonatorum.**—To evert the lids and get eye-drops thoroughly in contact with the eye tissues is a difficult matter, which D. C. BRYANT (*Western Med. Review*, Oct. 15, 1901) prefers not to intrust to the mother. He does this himself, letting the parents wash out the eye several times a day with potassium cyanide solution, 1:3,000, and apply ice to reduce the swelling. He recommends the aseptic irrigator shaped like an ordinary gravy-dish, which is much used in England.



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No. 111 FIFTH AVENUE, NEW YORK.

Subscription Price, including postage in U. S. and Canada

PER ANNUM IN ADVANCE . . . . .	\$4.00
SINGLE COPIES . . . . .	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM . . . . .	8.00

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LEA BROTHERS & CO.,

No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

SATURDAY, JANUARY 18, 1902.

## THE CHARITIES OF THE STATE.

THE recommendations made by Governor Odell in his second annual message to the Legislature, concerning changes in the management of the State charitable institutions, strike one as being almost radical enough to be revolutionary. In the first place, the Governor recommends that the Boards of Managers of the State Hospitals for the Insane be abolished, and that these hospitals be placed wholly under the jurisdiction of the State Commission in Lunacy, located at the Capitol in Albany.

We are unable to believe that this proposition is a good one, for we fail to see what benefit could possibly come out of such a change. On the other hand, we feel that too much centralized power in Albany in charitable matters is a bad thing. There seems to be but one thing it would be helpful to, and that would be the injection of politics in the care of the insane. The Boards of Managers under whose supervision the institutions are now placed are appointed by the Governor, by and with the advice and consent of the Senate and serve for variable periods of time. There has been no occasion to feel that such appointments are now political in nature, for the very good reason that they carry with them no

political prestige or power, and no pay. To abolish them and place the management of the institutions in the hands of a central board in Albany, which central board is subject to change at the pleasure of the Governor, would invite, if not force, the care of the State Asylum work into the hands of Albany henchmen.

The proposal to abolish the Boards of Managers of the other charitable institutions, including the reformatories, those for feeble-minded, the blind, the deaf, the dumb and epileptics, is, in our judgment, equally as wrong, and we hope the Legislature may see it so.

To run these institutions, that are now under the general supervision of the State Board of Charities, it is proposed to have a superintendent appointed from the members of the present State Board of Charities, "or otherwise," subject to the approval of the Governor, and who will work under rules and regulations made by the State Board of Charities, which rules and regulations shall also be subject to the approval of the Governor. One can see at a glance that the enactment of such a measure would at once place all the charitable institutions under the entire control of the Executive of the State, and so make it possible for them to undergo complete changes with every change of party. This would be dangerous; it smacks too much of practical politics; and any such proposition should be defeated.

New York State has built up a magnificent system of State charities, and it has taken a long time to do it. This system should not be ruthlessly torn down for the purpose of making fuel to help run the political machines. New York State is rich, its charity requirements great, and large sums are needed to care properly for her vast army of insane, feeble-minded, deaf, dumb and epileptics. If she is spending too much money, or not spending it in the right way, a halt should be called and due economy should be exercised; but do not let us sanction the conversion of this part of the State's work into a part of its political machine. New York City has been so long under the control of the Squire of Wantage as to make foreign control a stench in the nostrils of honor-abiding folk. The control of the State charities at Albany is a step in the wrong direction in that it totally subverts the now excellent plan of local supervision and control.

We shall watch with interest the progress that any bill introduced with the idea of carrying out the Governor's recommendations may make, and we urge physicians generally throughout the State to give the matter their earnest attention.

#### A PUBLIC HEALTH SERVICE.

IN THE issue of January 4th of the MEDICAL NEWS we referred to a bill "to increase the efficiency and to change the name of the Marine Hospital Service" which was read before the Senate of the United States, December 19, 1901.

This bill, the Perkins bill, gives the opportunity to establish a National Health Service that, for so many years, has been the dream of the sanitary wise, and we believe that it should be supported along its main lines, if not in all of its present details.

It is unquestionably very sound policy to use the well-equipped Marine Hospital Service as a basis of a National Health Service, rather than to organize a new health service that will either duplicate or render useless much of the work of the already established Marine Hospital Service.

It is to be borne in mind that the present name of the Marine Hospital Service is far from indicating the actual duties of this organization. It more closely fulfils at the present time the office of a public health service and it is not unreasonable that its scope should be widened in order to do so more efficiently. Its enforcement of quarantine regulations, domestic, insular and in foreign ports; its control and management of epidemics; its medical inspection of immigrants, its publication of sanitary reports and statistics relating to problems of public health, and the scientific investigations on medical subjects are all questions bearing most directly and largely on the welfare of the citizens of this country.

Organized, as is the Marine Hospital Service, on a strictly military basis, its discipline, efficiency and *esprit de corps* give the Service a firm foundation on which its accessory duties may be engrafted with benefit.

While it is undoubtedly true that there are a number of details which at the present time seem conflicting with the sovereignty of the State in the control of much of its own health affairs, we believe that once a service is established and the local conditions are appreciated such incongruities can and will be adjusted to the satisfaction of all State authorities.

To bring some order from the chaos of present conditions is desirable, even if such order is not of the most ideal form. What is needed is something to serve as a rational foundation for the establishment of our Public Health Service, and this, we believe, is better subserved by the bill under consideration than by any other which has yet been drafted.

#### ABSCESS OF THE LIVER.

It was the belief of the elder Flint that abscess of the liver frequently occurred as a complication of the forms of dysentery peculiar to tropical climates, but rarely complicated ulcerative diseases of the intestine in our own climate. This view of the frequency of hepatic abscess prevails to-day in the teaching of our medical schools. To maintain that it is erroneous would be to assume more than we are warranted in assuming at present; nevertheless, it is significant that in the service of a single hospital in New York City twelve cases of abscess of the liver have been surgically treated during the past six months, and we are disposed to raise the question whether the clinical importance of this condition is not generally underrated at the present day.

The subject is of more than theoretical pathological interest, for in the official report of the series of cases just referred to it will be shown that when reasonably early diagnosis is followed by prompt surgical intervention the prognosis is not as bad as might be supposed.

A previous history of intestinal disease cannot be obtained uniformly in cases of abscess of the liver; but, without relying too much on such a history, we may reasonably accept the suggestion of a hepatic focus which it offers in irregular fevers of obscure causation. In cases occurring in New York City a history of typhoid fever is not unusual.

Exploration by means of an aspirating needle is a simple procedure, involving so little risk that it should not be omitted when abscess of the liver is suspected. At best the clinical history of hepatic abscess is obscure; in advanced cases the physical signs are more reliable, but even in such cases a positive aspiration must be depended upon to give the final command for operation.

A febrile movement is the rule in these cases, but too much importance must not be attached to the lack of fever, especially if the period of observation be brief.

Tenderness over the hepatic region, associated with enlargement of the area of hepatic dulness, should arouse suspicion. In deep-seated abscesses pain is not a prominent symptom; if perihepatitis ensue the importance of pain is enhanced. When a large abscess exists it is not unusual to notice dulness on percussion over the base of the lung while vesicular breathing is distinctly heard over the dull area, extending to the extreme base. In a routine examination it is customary to look for friction rales over the surface of the liver.



The discovery of such râles will aid not only in the diagnosis of abscess of the liver, but will indicate roughly to what extent adhesions have already formed between the liver and the abdominal wall.

A reconsideration of the subject of hepatic abscess by those who are preparing text-books of clinical medicine would be profitable.

## ECHOES AND NEWS.

### NEW YORK.

**Practical Topics of Inebriety.**—Dr. T. D. Crothers of Hartford, Conn., will deliver three lectures in the Hall of the New York School of Clinical Medicine, 328 West 42d Street, New York City, on the following topics: January 21st, "On Inebriety and its Pathology;" January 22d, "Treatment and Cure of Inebriety;" January 23d, "Questions of Responsibility in Inebriety." These lectures will be given in the evening at 8.15 o'clock. Physicians are most cordially invited to attend.

**The Osteopathy Bill.**—It is evident that the fight against the bill regulating and legalizing the practice of osteopathy in the State of New York, and fixing penalties for the violation thereof, will be fought with more zeal than ever. Senator James H. McCabe of Brooklyn, who is a physician and a member of the Kings County Medical Society, introduced a resolution asking for the discharge of the Committee on Judiciary from the consideration of this bill, and the reference of the measure to the Committee on Public Health.

**Gift to the Post-Graduate Hospital.**—At the annual reception of the Post-Graduate Hospital, held last week, Dr. D. B. St. John Roosa announced a conditional gift of \$100,000 to be applied to the liquidation of the hospital's debt. Dr. Roosa said that the total debt of the hospital was a little under \$400,000. The condition attached to the gift is that the remaining \$300,000 is to be raised before the \$100,000 becomes available.

**The American Congress of Tuberculosis.**—The Third Annual Session of this Congress is announced to be held on the 14th, 15th and 16th of May, 1902, in the City of New York, in joint session with the Medico-Legal Society.

**Smallpox in New York City.**—Dr. Lederle has appointed a number of extra vaccinators to cope with this disease, as the signs are that there will be a great increase in the number of cases during the winter.

**Maternity Hospital Site.**—The directors of the Manhattan Maternity Hospital and Dispensary have selected a plot of four lots, 327 to 333 East Sixtieth Street, between First and Second Avenues, as a site for the Maternity Hospital which is to be built by a wealthy philanthropist as a gift to the East Side poor. It is the intention to provide a hospital, a dispensary and a training school for nurses, housed in a building equipped with every modern appliance. The special features of the hospital will be a corps of doctors and nurses who will care for patients at their homes. The service will be free, although a limited number of beds will be reserved for patients who are not in need of charity.

**Manhattan Dermatological Society.**—A regular meeting was held on Friday, January 3, 1902, at the residence of the Chairman, Dr. Wm. T. Gotthell.

Dr. R. Abrahams showed a case of *angiosarcoma*;

patient previously presented when some doubt was then expressed as to its malignant nature; microscopical sections since made show it to be true sarcoma. The mass occupied the prepatellar region and was about two inches wide by three long. Dr. Gotthell remarked that its tardy growth and the absence of considerable hardness speak against the diagnosis of sarcoma; the diagnosis cannot always be made with certainty without the aid of the microscope. Dr. Weiss accepts the microscopical diagnosis, though admitting the clinical picture was atypical. Dr. Franklin gave a differential diagnosis between granulation tissue and sarcoma as seen under the microscope. Dr. Abrahams further stated that removal of sections was attended by considerable bleeding and shrinkage of the tumor.

Dr. A. Bleiman presented a man of twenty-nine, who showed a macular eruption on chest and dorsum, also large hard papules on the face. The picture of secondary syphilis was considered typical, yet this man shows no initial lesion and denies infection. The diagnosis of *syphilis* was concurred in, Drs. L. Weiss and Gotthell stating that many such cases must be diagnosed irrespective of previous history.

Dr. R. Abrahams presented a man with *Raynaud's disease*: Six years ago there was involvement of the toes of right foot, followed by gangrene and subsequent amputation; later the big toe of the left foot became likewise involved, with loss of the member. At present the process shows itself in the right index finger; the finger is cold and anesthetic, and varies in color from red to blue or white; patient is highly neurotic; diabetes and syphilis were excluded. Dr. Sobel considers the case typical and regards the etiological factor as important. Dr. Bleiman remarked that the trend of opinion seemed to point to the blood-vessels as the primary lesion and reported a case recently observed in which both hands were involved. Dr. Dalton looks for atheromatous changes and regards the blood-vessels at fault. Dr. Pisko spoke in favor of the vasomotor theory.

Dr. Pisko presented a man of twenty-nine years, who gave the following history: Three years ago he complained of pruritis ani; two years ago there appeared on the scalp a hard papular eruption; eighteen months ago on the face and six months ago a red and itchy papular eruption of extensors of forearms. His wife aborted once; she had had five children, four of whom died within the first few months of life. Iodides and mercury did not influence the condition. Drs. Weiss and Sobel remarked that the history might lead on to a diagnosis of *syphilis*, yet they believed that it could be positively excluded. Drs. Weiss and Oberndorfer called attention to the exclusive involvement of the hair follicles and sebaceous glands; they would call it *folliculitis* and *acne*; this diagnosis was agreed upon by all present. Dr. Gotthell called attention to its unusual features. Dr. Bleiman considered it interesting, owing to its chronicity, and Dr. Abrahams called it folliculitis with an accompanying dermatitis. Dr. Pisko looked upon the lesion of the face and scalp as *acne varioliformis*; that of the hand as cutaneous gumma and that of the forearms as a lesion involving the sweat glands. For diagnostic purposes, sections will be examined and findings subsequently reported.

Dr. R. Abrahams showed a girl of sixteen with a nevus occupying the lumbar region; the mass became embedded in a cellulitis which was further complicated by a *herpes zoster*. The diagnosis of *nevus verrucosus* was concurred in, but Dr. Weiss doubted the coexistence of the zoster; Drs. Sobel and Pisko regard the vesicles as part of the cellulitis. Dr. Gotthell also accepts the latter view and stated that when first seen by him, some time ago, the appearance strongly suggested

**zoster.** Dr. Fraenkel spoke for removal and Dr. Kinch against such a procedure. Dr. Abrahams further stated that the vesicles followed the course of the nerve and this he deemed conclusive for *zoster*.

Dr. Gottheil presented photographs of a child who for four successive years in the autumn showed some bullous lesion of the leg and foot, situated upon a normal skin. The possibility of pemphigus and other bullous eruptions were discussed.

The following officers were elected for the ensuing year:

President, Wm. T. Gottheil; Vice-President, I. P. Oberndorfer; Secretary and Treasurer, A. Bleiman.

**The Old Asylum on Blackwell's Island.**—It is suggested that this building be given over to the housing of the tuberculous patients now in the City Hospital. It is now being remodeled and put in repair.

**Bellevue Hospital Trustees.**—The following names have been suggested as candidates for the seven members of the Board of Trustees of Bellevue and Allied Hospitals, under Section 692 of the Revised Charter: Dr. John Winters Brannan, James K. Paulding, Marcus Stine, Myles Tierney, Samuel Sachs, Howard Townsend, John J. Barry, Charles Macdonald, Felix M. Warburg, Theodore E. Tack, Winslow S. Pearce, Henry R. Ickelheimer, J. Hampden Robb, and Francis C. Huntington.

**Infected Milk in New York.**—The Commissioner of Agriculture, Charles A. Wieting, has discovered an infected herd of cows at a point about two and a half miles from Peekskill, and, as a result, two cows which have been proved to have tuberculosis have been killed, and the entire herd quarantined, in order to prevent the sale and distribution of infected cattle throughout the State. The milk and products of this dairy were shipped to New York City, and the conditions surrounding the case, the Commissioners said, call for stringent measures. State Veterinarian Kelly and an appraiser from the State Department visited the dairy recently and found it in a deplorable condition. It is owned by a New York City man who knows little of farming. He acquired it six months ago, and since that time about 50 of a herd of 108 cows have died.

**Shall Physicians be Permitted to Dispense?**—A bill has recently been introduced at Albany amending public health laws by excepting regularly licensed and practising physicians from the prohibitory clause which prevents them from conducting a drug-store, and directing the State Board of Pharmacy to issue a license to physicians who present proper proof that they are legally authorized to practise medicine.

**Sanitary Superintendent at Jamaica, L. I.**—Health Commissioner Lederle has appointed Dr. Samuel Hendrikson of 46 Bergen Avenue, Jamaica, assistant sanitary superintendent for the Borough of Queens, vice Obed Lusk. The salary is \$3,500 a year. Dr. Hendrikson was graduated from the College of Physicians and Surgeons in 1875 and has been in practice at Jamaica for nineteen years.

#### PHILADELPHIA.

**Award of the Gross Prize of \$1,000 to Dr. Dawbarn.**—The Philadelphia Academy of Surgery, as Trustees of the Samuel D. Gross Prize for Original Research in Surgery of one thousand dollars, have awarded this prize, after six years' interval, to Dr. Robert H. M. Dawbarn of New York. The treatise which won the competition was entitled "The Treatment of Certain Malignant Growths by Excision of both External Carotids." Upon this topic Dr. Dawbarn has worked as opportunity served, for seven years,

past. The essay when published will contain the histories, with pathologists' report in each instance confirming diagnosis of malignancy and specifying its variety, of forty carotid extirpations by the author himself; and as many additional by about a dozen other surgeons. At least two of these are members of the Philadelphia Academy of Surgery. By the terms of Dr. Gross' bequest, the prize-essay must be published in book form, and a copy thereof deposited in the Samuel D. Gross Library of the Philadelphia Academy of Surgery.

**Smallpox Again Increases.**—The record for cases during the present outbreak was broken by the week ending January 11th, when 131 cases were reported. The disease is believed to be stamped out at the Philadelphia Hospital and Almshouse, no new case having occurred for nearly two weeks. The inquest held by the Coroner January 11th, in the case of Joseph Goldie, aged eleven years, who was brought here from Bristol in the fall and died from tetanus following vaccination, showed that the real cause of death was "blood-poisoning and tetanus, following secondary infection after vaccination." Witnesses proved that the boy failed to take proper care of the wound after being vaccinated.

**Obituary.**—Dr. Charles Francis Carpenter died at West Chester, January 5th, in his seventy-sixth year, from influenza. In 1857 he went to Louisville, Ky., where he practised for forty years. During the Civil War he had charge of the Army Hospital at Louisville. Dr. Carpenter was an extensive traveler.

Dr. Alfred N. Mahon, son of Dr. J. B. Mahon of Pittston, died January 11th of nervous prostration following typhoid fever contracted in the Philippines while acting as surgeon on the transport "McClellan."

**Annual Exhibition of Pathological Society.**—The Philadelphia Pathological Society held its annual exhibition meeting January 9th. These meetings are made very interesting and instructive, members exhibiting gross specimens, microscopic sections, bacteriological findings, etc. As many as fifty microscopes with mounted preparations have been shown by one exhibitor.

**Meschanza Too Costly.**—The Meschanza held recently in the Academy of Music for the benefit of the McKinley Memorial Hospital Fund was not a success financially, there being a considerable deficit instead of a surplus. The committee made an unfortunate mistake in assuming more expense than it should have done and the fair was not patronized by physicians or the public. The *Press*, in commenting on the affair, says: "The mix-up over the Meschanza now being aired simply proves once more the folly of such elaborate fairs as money-raising projects. The contagious diseases hospital ought to be above such a means of raising the funds needed; in fact, is it not about time that the fair was passed by as an agency for securing funds? It is always a costly, wasteful, unscientific method."

**Officers of Academy of Surgery.**—The officers elected January 6th are as follows: President, Richard H. Harte; Vice-Presidents, Henry R. Wharton and John B. Deaver; Secretary, William J. Taylor; Treasurer, William G. Porter; Recorder, John H. Gibbon; Council, R. G. Le Conte and W. Joseph Hearn; Business Committee, J. H. Jopson and G. G. Davis.

**Accident to Dr. Keen.**—Word has been received that Dr. W. W. Keen, who is now in India on his trip around the world, has been unfortunate enough to fracture one of his clavicles, it is reported by falling from a horse. Dr. Keen had his right clavicle broken a number of years ago.

**Obstetrical Society.**—Dr. John M. Fisher was re-



cently elected president of this Society for the ensuing year.

**Smallpox in Pennsylvania.**—Dr. Lee, Secretary of the Board of Health of Pennsylvania, has informed the State Health Department that there is an outbreak of smallpox in the village of Shinglehouse, on the borderline between New York State and Pennsylvania. Every precaution will be taken to prevent a spread of the disease.

**College of Physicians.**—At the meeting of the Section on Medicine, held January 13th, Dr. D. J. M. Miller reported a case of pneumococcic arthritis occurring in a patient suffering from lobar pneumonia. Dr. J. M. Anders exhibited a postmortem specimen of aortic stenosis in which there was a sacular dilatation of the aorta beyond the stenosis at the valves; just beyond the dilatation was a narrowing. The strictly-localized area of atheroma was a point of interest. Dr. Anders stated that the diagnosis of aortic stenosis should never be made unless all the signs of that condition were present.

#### CHICAGO.

**National Health Service.**—The following resolutions were passed by the American Society of Naturalists and by the Council of the American Association for the Advancement of Science, at meetings held in Chicago during the last week in December, 1901: *Resolved*, That the Council of the American Association for the Advancement of Science approves of the efforts to strengthen the administration and work of the Marine Hospital Service by its establishment as a National Health Service, in the direction of promotion of the public health, the furtherance of scientific investigation relating thereto, and the securing of the cooperation of experts in hygiene and related subjects.

**Pavilion for Tuberculous Patients.**—At a regular meeting of the Chicago Medical Society, held January 8, 1902, the following resolution was presented by Dr. Frank Billings, seconded by Dr. J. B. Murphy, and unanimously adopted by the Society: *Resolved*, That the Chicago Medical Society petitions the Honorable Board of Commissioners of Cook County to erect a pavilion for tuberculous patients who are gravely ill in the city of Chicago, within practical distance of the center, so as to command the attendance of an efficient medical and surgical staff; and it further petitions that the modern plan of treatment of tuberculous patients who offer hope of recovery be instituted in small cottages located at some suitable place in Cook County. In a discussion on this resolution, Dr. J. B. Murphy said that it was a move in the right direction. Consumptive patients are being treated to-day on an entirely different basis from that of twenty years ago. Seventy-five per cent. of the cases to-day approximately are curable. Furthermore, it is an acute infectious disease, and requires the same guidance, care and treatment that typhoid fever does, and should be treated humanely on that basis. These patients should be housed in an accessible locality, where they can receive prompt and intelligent attention. He offered the suggestion that the pavilion be not attached to the Cook County Hospital. Dr. William Cuthbertson stated that recent investigations have shown clearly the inefficient food supply of patients at the Dunning institution. If this institution for the care of consumptives were removed from Dunning and placed anywhere within city limits, what guarantee would the people or the medical profession have that the patients would be treated any better in the city than at Dunning? He thought it would be better to treat the chronic consumptives at Dunning as they should be treated, and take the money

that would be required to build a new institution within city limits and expend it at once in erecting cottages, such as Dr. Billings had suggested, for the treatment of curable consumptives. A large amount of money would be spent in the erection of this building, and he suggested that a competent medical staff be appointed who would be well remunerated for their services and who would be given charge of the chronic consumptives to be treated, and that the money required to build an institution in Chicago should be spent immediately on the erection of cottages.

**As to Vaccination and Smallpox.**—Dr. Reynolds has issued a supplement to "A Vaccination Creed" noted in last week's issue. It says that not one of the 346 cases of smallpox discovered in Chicago within the last three years was found vaccinated as defined in the "Vaccination Creed." Of the total number, 306 never had been vaccinated at all, though most of them claimed that they had. Examination of the arms proved that these attempts at vaccination were failures; there was no scar and the patients finally admitted that the vaccinations when performed did not "take." A "failure" is not a vaccination; therefore, these 306 cases had never been vaccinated. Of the remaining 40 cases, 26 had old, irregular and doubtful scars said to be the result of vaccination; but these were not characteristic; they were more like the scars from infected sores or wounds than those from vaccine. Nine had fair old scars of vaccinations made from 30 to 40 years previously. Only five had typical (characteristic) scars; but these also were the results of vaccination made many years before and never repeated. In no single case of the 346 had the terms of the First Article of the "Vaccination Creed" been complied with—vaccination had NOT been repeated until it would no longer "take." If it had been they could not have contracted smallpox. These 346 persons are examples of thousands of others who honestly believe they have been vaccinated, because they have had their arms scratched, something rubbed in and a more or less painful sore has resulted. There is no operation so simple and so safe as vaccination when properly performed and cared for. There is no operation in which such serious results follow carelessness and ignorance—even unto death itself, either as a direct result through poisoning of the vaccination sore or from smallpox through failure to secure a successful protective vaccination. It is to be understood that the vaccination herein referred to is that indicated in the Second Article of the "Vaccination Creed," to-wit, that made "on a clean arm with pure lymph and kept perfectly clean and unbroken afterwards." Each one of these points is essential to a protective vaccination and to freedom from serious soreness: The utmost attainable cleanliness; absolute purity of the vaccine lymph; an unbroken surface, by which latter all danger of contamination from external sources—the atmosphere, clothing, soiled hands, etc., is prevented. To be more specific on these points: The arm should be first thoroughly washed with soap and water and the site of the operation then wiped with alcohol. After the vaccine spot has dried, pin a clean soft handkerchief or piece of clean soft muslin to the shoulder-seam of the undershirt so as to hang in loose folds over the spot and prevent the sleeve from rubbing it. This must be changed for a clean one every day until the scab comes off and the surface is healed. The vesicle and resulting scab must not be broken or injured in any way and the arm and its coverings must be kept scrupulously clean from the time of the vaccination until it is well. Because experience has shown that cleanliness and the protection of the surface are best secured by the above method, the Health Department advises against the

use of "shields," bandages, plasters or other dressings; but if these are used—as they are by many physicians—they should only be applied as directed by the physician himself, and with the utmost regard to cleanliness.

**Diagnosis of Pericarditis.**—Dr. A. R. Edwards read a paper upon this subject before a recent meeting of the Chicago Medical Society. He said that the disappearance of a previously distinctly seen apex beat is very important. Ewart's first rib sign, the separation of the first rib from the clavicle, was described. The strength of the pulse is of value, a strong pulse with disappearance of the apex beat being of marked significance. Under percussion especial emphasis was placed upon the two complementary pericardial recesses of Forber; the first, triangular in form, with its apex directed downward, is found over the base of the heart, and the second in the fourth right intercostal space. Change of dullness observed in the erect posture is also noted in dilated hearts and in valvular heart disease, explained by Sahli by mechanical emptying of the auricles of their blood or by descent in this posture of the diaphragm. Change of the right border of the pericardial dullness in lying upon the right side is important, according to Rosenbach, since this does not occur physiologically. The characteristics of the friction murmur were discussed, especial weight being attached to its superficiality, lack of synchronism with the cardiac activity, its localization (cases being cited in which wide propagation over the whole chest was observed), and the influence of respiration. The friction murmur often persists despite large effusion, in which respect pericarditis stands in contrast to pleurisy. The great frequency with which pericarditis runs a latent course was discussed, as well as the causes of its latency, *e.g.*, severity of symptoms of the primary disease, as rheumatism or pneumonia, the frequently short life of the patient, as a rule, the occurrence of pericarditis as a secondary disease or a terminal affection, and the absence or equivocal significance of the symptoms of pericarditis as noted in the earlier descriptions of the disease. The etiological diagnosis is important, since pericarditis is almost invariably secondary to (1) acute infections; (2) extension by contiguity of inflammation in adjacent parts; (3) cachexia or dyscrasia. Differentiation was held to rest upon (a) the friction, and (b) the dullness. After discussion of differentiation from endocardial murmurs, the relation of pericarditis to valvular lesions, hidden by the exudate was considered of great importance and often to be suspected by the character of the pulse, etc. Under percussion, confusion with cardiac dilatation was considered too often inevitable, especially when dilatation of the heart coexisted with hydrops pericardii, hydrothorax, etc. Other evidences of stasis, as hydrothorax, usually antedate the hydrops pericardii. The clinical evolution, effects of digitalis and drastics, the iodide of potash, etc., are of differential value. Pulmonary retraction, mediastinal tumor, aneurism, marginal pulmonary infiltration, callous pleura, anterior mediastinitis, superabundant fat, etc., also received consideration.

#### CANADA.

**Appointments.**—Dr. E. P. Benoit has been appointed physician to the Montreal Jail. Dr. G. C. Ferrier, who was graduated from Queen's University two years ago, has been appointed a member of the Canadian Field Hospital for South Africa. Many medical students of the different colleges throughout Canada have also been appointed on this field hospital. Dr. A. T. Hobbs, formerly assistant surgeon at the Asylum for the Insane, London, Ontario, and who is chiefly known to the medical profession for his work

while there in connection with gynecology among the female insane, has been appointed superintendent of the "Homewood Retreat," a private asylum at Guelph, Ontario.

**Sir William Hingston's Professional Jubilee.**—Sir William Hingston, the distinguished surgeon of Montreal, is celebrating his professional jubilee, and his friends and confrères have recently given testimony of their esteem by presenting him with a portrait in oils of himself. Sir William was graduated from McGill University in 1851 and from Edinburgh University in 1852. He organized the first board of health ever in existence in Canada, is a past-president of the Canadian Medical Association, an Honorary D.C.L. of Bishop's University, also LL.D. of Victoria University, Toronto, and a vice-president of the Montreal Branch of the St. John's Ambulance Association. He has also been the recipient of distinguished honor from the Supreme Pontiff, her late Majesty Queen Victoria, and also from the Dominion Government.

**Consumption Sanitarium for Calgary.**—The Government at Ottawa have received copies of a resolution recently unanimously passed by the City Council of Calgary, N.W.T., which protests against the increasing number of consumptives who are continually pouring into the western city in search of health and benefit from the fine climate. This resolution points out that nearly all of these persons come from the province of Ontario and other Provinces in the east, and therefore, calls upon the Dominion Government to erect a sanitarium in that locality or else contribute aid for the purpose. Should the Dominion authorities decide to comply with this request the Calgary Council will gladly co-operate.

**A New Asylum in Ontario.**—The old Victoria University buildings at Coburg, Ontario, have been converted into an Asylum for the Female Insane, and on January 4th was formally opened. It has accommodation at present for 150 patients, and the congestion in the other asylums of the Province will be relieved by transporting some of the patients thither. Dr. McNichol of Coburg has been appointed superintendent and he will have associated with him as assistant physician a female doctor, Dr. Cockburn of Toronto, this being the first instance of the appointment of a female doctor to the hospital service in Canada.

**Notre Dame Hospital, Montreal.**—The annual report of the Notre Dame Hospital, Montreal, shows that the past year has been one of excellent work. During that time there were 2,200 in-patients treated (177 more than the previous year), of whom 1,845 were cured, 155 reported as incurable and 134 died. In the surgical department there were 862 cases; gynecological, 250; ophthalmological, 180. The free medical advices numbered 20,078; in the pharmacy 24,246 prescriptions were filled. The financial report showed that the receipts had been \$32,293.35 and the expenditure \$29,480.54.

**Ontario Medical Defence Association.**—A deputation from this Association, composed of practitioners from different sections of the Province, waited on Premier Ross last week at Toronto. This Association desires to see the Medical Council, the governing body of the College of Physicians and Surgeons of Ontario, more representative and their mission on this occasion was to ascertain if the Government would introduce legislation at the present session of the Legislature to remedy so-called evils and thus do away with the appointed and homeopathic representatives, as they claim that the latter have altogether too much influence



in the affairs of the Council. The Premier promised consideration.

**Laval University.**—This institution will celebrate the fiftieth anniversary of its foundation on June 24th next.

**Victorian Order of Nurses.**—This order has received \$23,000 toward the Cottage Hospitals Fund and of this sum \$11,000 has already been disbursed.

#### GENERAL.

**St. Louis Medical Society of Missouri.**—This Society held its last regular meeting Saturday evening, January 17th. A paper on "Traumatic Rupture of the Intestines from External Violence" was read by Dr. A. H. Meisenbach.

**Association of American Anatomists.**—According to *Science*, the officers elected by the Association of American Anatomists are as follows: President, G. S. Huntington, New York; Vice-President, D. S. Lamb, Washington; Secretary and Treasurer, G. Carl Huber, Ann Arbor; new members of Executive Committee, C. A. Hamann, Cleveland, George A. Piersol, Philadelphia, and F. H. Gerrish, Portland, Me.

**Infant Mortality in Russia.**—The St. Petersburg correspondent of The (London) Times says alarming figures in regard to infant mortality are made public by the medical reports to local authorities. It appears that in many Governments 40 and even 50 or more per cent. of the children die in their first year. The mortality is attributed mainly to the ignorance of the peasants and to the fact that the mothers frequently neglect their children in order to work in the fields. Another cause, is said to be the employment of wet nurses, necessitating the feeding of the nurses' children by artificial means. In one Government, where the mortality of infants among the Christians is 342.1 per thousand, the death-rate among the children of Mohammedan parents is 140.4 per thousand. The Mohammedan law compels mothers to nurse their own children.

**Weird Causes for Suit.**—The damage suit just decided by the Massachusetts Supreme Court against a woman who had brought action against the city of Boston on the ground that she contracted rheumatism as the result of climbing down into a catchbasin to rescue her child, who had fallen through and was drowning in the sewer, was somewhat of the nature of a suit which a Missouri woman is said to have once brought against a railroad. The Missouri woman was a passenger on the railroad and, having been accidentally carried beyond her destination some distance, the train stopped and she alighted. While returning she was chased by a bull, and her suit was based upon the claim that in outrunning the bull she impaired her health.

**Fourth International Gynecological and Obstetrical Congress.**—It is announced that this Congress will be held in Rome about September 15, 1902. The following names appear in the Italian Committee on Organization: Pasquali, President General; Mangiagalli and Morisani, Presidents; Pestalozzi, Secretary General; La Torre, Treasurer; Caruso and Regnoli, Secretaries; Truzzi, Calderini, Guzzoni, and Negri, Counselors.

**Prof. Behring's Work.**—News is received that Prof. Behring, at a Conference on Serumtherapy, reported successful results in his endeavors to render animals immune to tuberculosis through serum injections. The Noble prize awarded to him will be used

for the pursuance of further research in the prevention of bovine tuberculosis.

**Depopulation?**—Statistics show a decrease in the birth-rate in Prussia of 5 per cent., England 10 per cent., France 14 per cent., and Belgium 15 per cent.

**A Versatile Physician.**—The following is an advertisement published in Shakespeare's time: "Wanted—for a family of invalids, a reliable and faithful man who is a competent physician, surgeon, and obstetrician; he must also take charge of the wine cellar and table service, and understand the carding of hemp, and construction of wigs. Every Sunday he will be expected to deliver a sermon, and, if necessary, conduct religious services. A liberal salary will be paid."

**Smallpox in Hackettstown.**—The smallpox situation is unchanged in this place. There are now forty-five cases reported. No new cases have occurred.

**Sells M.D. Diplomas.**—The Postmaster-General issued an order January 10th denying the use of the mails to the "Central University of Medicine and Science," and J. W. Norton Smith, President, 68 Montgomery Street, Jersey City. The university represented that it was an incorporated institution in good standing and that it had an extensive medical faculty. To those desiring to practise medicine the University of Medicine and Science sold diplomas at prices ranging from \$5 to \$20, according to the ability of the prospective M.D. to pay. The scheme is identical with that operated in Chicago by James Armstrong, under the title of the Metropolitan Medical College. Armstrong was tried before Judge Kohlsaat in the United States Circuit and sentenced to one year in jail. The Department of Justice will probably take action against J. W. Norton Smith, who is named in the fraud order as the promoter of the present scheme.

**New Sydenham Society Publication.**—Jonathan Hutchinson, F.R.S., General Secretary of the New Sydenham Society, has requested Messrs. P. Blakiston's Son & Co., of Philadelphia, the American agents of the Society, to announce the publication of "An Atlas of Clinical Medicine, Surgery and Pathology," selected and arranged with the design to afford, in as complete a manner as possible, aids to diagnosis in all departments of practice. It is proposed to complete the work in five years, in fasciculi form, eight to ten plates issued every three months in connection with the regular publications of the Society. The New Sydenham Society was established in 1858, with the object of publishing essays, monographs and translations of works which could not be otherwise issued. The list of publications numbers upward of 170 volumes of the greatest scientific value. An effort is now being made to increase the membership, in order to extend its work.

**Obituary.**—Dr. Joseph S. Carreau, who has been an active physician in New York City for the past thirty-eight years, died recently at his home in that city of heart disease. Dr. Carreau was born in Canada, and his work was principally among the French Canadians in New York. He was a graduate of Bellevue Medical College and a member of the New York County Medical Society.

Dr. Grove H. Wilson, former mayor of Meriden, Conn., died last week from enlargement of the heart. He was seventy-eight years old.

Dr. George Covert died at Clinton, Wis., last week, as a result of a cold. He was seventy-three years old, and had been president for several successive terms of both the National and the State Eclectic Medical associations.

## CORRESPONDENCE.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, January 4, 1902.

THE KING AND THE CRUSADE AGAINST CONSUMPTION—A MAGNIFICENT DONATION FOR A ROYAL SANATORIUM—THE GIFT AND THE GIVER—THE INNER HISTORY OF THE AFFAIR—PRIZES OFFERED FOR INTERNATIONAL COMPETITION.

VESPASIAN, who, as historians tell us, died on a close stool, cynically described the situation in his last words, *Ut puto, deus fio*. We laugh at the Romans for deifying their emperors, but have we, the subjects of His Gracious Majesty Edward the Seventh, King of all the Britains and Emperor of India, any right to laugh at them? The Romans waited till their sovereigns were dead before they made gods of them; but we come very near to deification of ours while they are still alive. It is a fundamental principle of the British constitution that "the King can do no wrong;" but his lieges have stretched this principle into a dogma that whatever the King does must necessarily be, in the words of our most uninspired national anthem, "gracious and glorious." Hence the announcement made this week that King Edward is about to found a sanatorium for consumptives has been hailed by the newspapers with a chorus of adulation which recalls the groveling dedications of books to royal patrons of a bygone day. His Majesty's solicitude for the well-being of his people; his intelligent interest in medical science; the enthusiasm with which he has thrown himself into the crusade against consumption, are celebrated with a wealth of laudatory epithets and a tropical luxuriance of verbiage that would be exaggerated if applied to the active benevolence of a Titus or the constructive statesmanship of a Napoleon. If the King himself had given the money for the building and endowment of the sanatorium, the act would justify some part at least of the peans that have been sung in his praise. But his share in the matter is simply that he acts as the almoner of one of his subjects who has placed a sum of one million dollars in his hands to be used for utilitarian or charitable purposes. This seems easy enough, but in reality it is a great deal in a country where royalty is worshipped with far greater devotion than is paid to the Almighty. The gold of the philanthropic millionaire is but common metal till it is touched by the royal fingers, when it becomes transmuted into something sacred and acquires thaumaturgic properties, in particular a singular power of attraction which ensures the success of the object for which it is given. The King's sanatorium is sure to be successful simply because His Majesty has deigned to allow his name to be associated therewith.

The history of the gift is interesting as affording a glimpse into the inwardness of our British life, which outwardly looks so stolidly respectable. The money has been given by Sir Ernest Cassel, a multimillionaire who has financed the Egyptian Government, and also, it is whispered, Edwardus Rex himself. The said Cassel is, like the late Baron Hirsch and other financial supporters of His Majesty, a Hebrew; his immediate origin, however, is not from Judea, but from Germany, his father having been something in the money-broking way at Cologne. Besides his vast pile of ducats Cassel, like his compatriot Shylock, has a daughter. The young lady fell ill not long ago, but fortunately physicians were not in vain. It would have been passing strange if they had, for they were Sir William Broadbent and Sir Felix Semon. Whether it was gratitude to either or both of these oracles of medicine, or the

glitter of a prospective coronet at the "Coronation Honors," that moved the financier to lay his million of dollars at the royal feet, deponent knoweth not. But there is already a good deal of heart-burning on the subject, and there is going to be more. The money, it is said, was at first intended for the National Association for the Prevention of Consumption in which the King has from its foundation taken a keen interest, as he showed on the occasion of the Tuberculosis Congress held here under its auspices last summer. In some mysterious way, however, the donor was induced to offer his shekels directly to the King. Hence there is much gnashing of teeth among the leading spirits of the Association. It may be nothing more than a coincidence that Sir Felix Semon, who, like Sir Ernest Cassel, is a German Jew and is supposed to nourish a grievance against the organizers of the Congress for some alleged failure to recognize his high position in the medical hierarchy, has taken a prominent part in the matter. It is a fact, however, that the Advisory Committee chosen by the King to carry out the scheme consists, with one or two exceptions, of men who are known to be hostile to the movement against tuberculosis initiated by the National Association. The King is probably not aware of the use that is being made of him to gratify personal jealousies and avenge real or supposed injuries. But he will learn it before long and then there will be trouble. It is not surprising, therefore, that one of the most prominent members of the Advisory Committee is already anxious to be out of the business. And there is more behind.

When the rumors about the King's health were flying about, some of the Continental papers stated that a Dr. Besold, a German laryngologist, had been called to see His Majesty. It turns out that Dr. Besold, whose name is unknown to the medical profession of this country, is assistant medical superintendent of the sanatorium at Falkenstein. The King visited that place some years ago and was, as he stated publicly afterward, greatly impressed by what he saw. He visited it again a few months ago in company with one of his physicians, Sir Francis Laking, and doubtless on one or other of both of these occasions he made the acquaintance of Dr. Besold. Then an English "lady of quality" came on the scene. She was sent to Falkenstein and seems to have been fascinated by the German physician, whom she brought over to England to see the King, not to give counsel about the royal throat, but to discuss the matter of a sanatorium. It is said that it is the King's intention to appoint Dr. Besold head of the new foundation. Here again King Edward is being made use of to push the private ends of some intriguing individuals. The Advisory Committee which has been appointed consists of Sir William Broadbent, Sir R. Douglas Powell, Sir Francis Laking, Sir Felix Semon, Sir Hermann Weber and Dr. Theodore Williams. There are, therefore, two Germans on the Committee; if a German physician is placed at the head of the sanatorium, much dissatisfaction will certainly, and I think justly, be felt by the medical profession of Great Britain. Already the royal family largely patronizes German practitioners of one kind or another and recommends them to their friends. Such a recommendation is in this snobocratic country equivalent to a command; hence, native talent is ignored that the horn of the Germans may be exalted. On the whole the omens seem to point to a tremendous outbreak of squabbles and scandals as the result of what is ostensibly an act of pure philanthropy. It may turn out that the German financier has thrown a veritable apple of discord among the King and his medical counselors. I should say that it will be a year or eighteen months before the scheme finds actual embodiment in bricks



and mortar. The Advisory Committee offer \$4,000 in prizes for the best essays and plans for a model sanatorium and the competition is open to medical men of all nationalities. As the precise conditions of the competition may interest some of your readers, I give them in full:

1. Medical men of all nationalities may compete. The papers may either be the work of a medical man, or the joint production of a medical man and an architect.

2. The sanatorium is intended for 100 tuberculous patients, 50 male and 50 female.

3. Of the total number of beds, 88 will be assigned to the more necessitous classes, whilst 12 will be reserved for the well-to-do.

4. The accommodation for all patients is to be comfortable, a separate room being provided for each. Superior arrangements are to be made for the more wealthy patients.

5. It may be taken for granted that the sanatorium will be erected on an elevated and sloping site with a sunny exposure, and well sheltered from cold winds. It will have a farm at a convenient distance and be surrounded by extensive grounds, well wooded, and affording ample space for exercises of various kinds. The soil will be dry and permeable, and the water supply will be abundant.

6. The sanatorium must be fitted with all the latest sanitary arrangements and equipped with all requirements for scientific research. Provision should also be made for the recreation of the patients.

Economy in construction will be an important consideration, but it must not interfere with the reasonable comfort of the patients or the efficiency of the institution.

8. The essays must be in English and typewritten.

9. The essays must not bear the name or names of their authors, but should have a motto and each essay should be accompanied by a sealed envelope bearing the motto on the outside and containing the full name and address of the author or authors inside.

10. Three money prizes of £500, £200, and £100 respectively, will be awarded in order of merit on the recommendation of the Advisory Committee for the three best essays, provided they come up to the requisite standard of excellence. Brevity will be an important consideration, and a summary of the main features of the scheme should be appended to the paper. Unsuccessful papers will be returned to the author.

11. All essays and plans must be sent, postage paid, on or before April 15, 1902, to one of the Secretaries of the Committee: Dr. P. Horton Smith, 15 Upper Brook Street, London, W., or Dr. John Broadbent, 35 Seymour Street, London, W.

#### TRANSACTIONS OF FOREIGN SOCIETIES.

##### French.

CEREBRAL TUMOR—RESPIRATION AND HIGH ALTITUDES—WINE AND TUBERCULOSIS—PENETRATING WOUNDS OF THE SPINAL CANAL—SUTURE OF THE HEART—LEUCOPLASIA AND SYPHILIS—BRADYCARDIA IN DIPHTHERIA—MERCURIAL INJECTION—HEMORRHAGE AND THE CEPHALORACHIDIAN FLUID—GOITER IN CHILDREN—MOTOR APHASIA—RAKE CYSTITIS—POTATOES AND DIABETES.

LUCAS-CHAMPIONNIERE, at the Academy of Medicine, December 3, 1901, continued the discussion of Jacksonian epilepsy with reference to cerebral localization. Tumors of the brain show symptoms which vary greatly and make it difficult to determine the time and point of surgical attack. As to the time of surgical intervention he disagreed with Raymond, who at the preceding meeting said that he thought that operation

could usually be delayed until paralysis was definitely established. Lucas-Championniere claimed that a partial epilepsy and very acute symptoms justified an operation with the hope of removing the cause before it was too late and paralysis had become fixed. Jacksonian epilepsy itself may not always justify operation, but as a rule it furnishes indications for operation for the troubles which accompany epilepsy in the majority of cases.

ROBIN read in behalf of Binet, Dupasquier and himself the experiences which Dupasquier had undergone while making balloon ascensions. The most important facts noted were an increase in the number of pulsations of the heart and of respirations, whose frequency increased proportionately with the altitude, and a diminution in the capacity of the lungs which seemed to be in inverse ratio to the altitude. Furthermore, the gas excreted by the lungs decreased in the amount of carbonic oxide gas without direct reference to the altitude; as to the ventilation of the lungs he found an irregular progress compared with the altitude. The respiratory changes were also increased according to the quantity of oxygen absorbed by the tissues. These various modifications did not cease immediately upon return to earth. The author added that possibly many of these factors depend upon others, namely, the degree of cold and the age of the subject. Herein he disagrees with the observations of other authorities, Tissot and Hallion, who claim that the individual is sufficiently dominant for generalizing the whole results. It therefore appears that definite conclusions on this point cannot yet be arrived at.

ROOS, at the Academy of Sciences, November 25, 1901, stated that before concluding his researches into the question of the influence of wine upon healthy subjects he proceeded to verify by experiments the usual opinion to the effect that tuberculosis develops more rapidly in individuals who drink alcohol, especially if this is in the form of fermented liquors. For the purpose of proof he inoculated with tuberculosis six pairs of young guinea-pigs. Of these three were subjected to an ordinary diet, while the other three received during about one month and were still continuing to receive 35 cubic centimeters of wine a day for each kilogram of weight. At first the animals of the second group lost in weight considerably more than those of the first. None were adult animals and all continued to develop well. At the end of fifty days the weight curves of both lots of animals became parallel and almost the same. Later peculiar variations in weight appeared, first of the alcoholic and then of the non-alcoholic series of animals, first the one weighing more and then the other. Finally, the inoculation was done on the ninety-fourth day on the alcoholic animals and on the ninety-fifth day on the others; one guinea-pig of the first group was the last to die. His conclusion from his observations is that alcohol even in large doses does not have much influence on the experimental development of tuberculosis in the guinea-pig.

WALTHER, at the Surgical Society, November 27, 1901, reviewed the clinical facts concerning a case of penetrating wound of the spinal canal with complete division of the spinal cord. He operated on a woman last year for such a wound in the dorsal region caused by a revolver shot. The patient presented a paralysis complete in both lower extremities with the abolition of both reflexes, although right after the injury she was able to get up and take one or two steps, consequently the diagnosis was compression of the spinal cord by hemorrhages. Therefore on the fifth day, owing to the appearance of trophic troubles in the form of chipping of the nails and other trophic signs in the sacral region, it was decided to interfere. There was

also at the same time a penetrating wound of the chest which had caused a hemopneumothorax which had slowly begun to disappear owing to the trophic symptoms already enumerated. The diagnosis was changed to one of probable division of the spinal cord. Stereoscopic radiography showed that the bullet was situated in the spinal canal just beneath the right root of the vertebral arch in the second dorsal vertebra. Here the bullet was found at the operation without meeting anything but a little hemorrhage. The spinal cord was unfortunately cut entirely across and there was a space of half an inch between the two stumps. Nothing whatever could be done. The unfortunate woman died two and one-half months after the injury.

FONTAN stated that he had had a successful case of suture of the heart for stab wound. The operation was done two hours after the injury and is the second of the kind which he has performed. He made a flap in the front of the chest, taking in the fourth, fifth and sixth costal cartilages beneath which he found a wound of the pericardium. This he enlarged enough to get a fair view of the heart which presented a cut in the ventricle about 15 mm. above the apex. This he proceeded to suture with a Hagedorn needle and a medium-sized catgut. Complete arrest of the hemorrhage was obtained fifteen minutes after the operation. During the operation about one liter of salt solution was injected. After a period of disquiet the injured man began to pick up in a very satisfactory manner. Later, however, trouble in the lung began at the base, owing, perhaps, to a small embolus; on the sixth day symptoms of infection also developed on the left side in the chest and made it necessary to do a thoracotomy. Finally a phlebitis of the lower limb on the right side added still more to his complications. Nevertheless, the patient recovered.

LANCHER, at the Medical Society of the Hospitals, reported in his name and in that of Lacapère an observation of a man, sixty years old, who during the course of a severe jaundice was overtaken by a right-sided hemiplegia involving the face and accompanied by hemichorea, hemi-anesthesia and contracture. Although the man denied ever having had syphilis, the presence on his tongue of two small areas of fibrous leucoplasia made the observers think that syphilis was at the bottom of the hemiplegia. They afterward gave him every day an injection of benzoate of mercury and prescribed iodide of potash. Four days afterward the paralysis had almost completely disappeared and there were left only a few choreiform movements and light exaggeration of the reflexes at the knee and a little hypoesthesia on the right side. According to the author such spots within the mouth are always of syphilitic origin. Usually treatment with mercury is not effectual against them.

BARDIER presented three cases of bradycardia, which he has observed in children recovering from diphtheria. In one case the pulse fell to 62; in another it remained for about fifteen days at 60. In none of the little patients in question was this phenomenon of the heart accompanied by signs of functional trouble. The only way of perceiving the condition was by a methodical daily examination of the pulse. All three left the hospital apparently cured. Although bradycardia is an abnormal phenomenon and an exception in the course of diphtheria, it possesses no great gravity, although many authors have stated that it always precedes a fatal issue.

GAUCHER gives the following formula for an isotonic artificial serum for dissolving benzoate of mercury: Chloride of sodium, gram 0.75; benzoate of mercury, gram 1; sterilized water, grams 100. The injection

must be made deeply into the cellular tissue in the buttock and not into the muscles. The dose may be 2 cubic centimeters and it is very well borne even without cocaine and occasions only a little pain; sometimes there is absolutely no pain.

SICARD, at the Society of Biology, November 30, 1901, read a paper on the chromo-diagnosis of the cephalorachidian fluid in cases of hemorrhage into the nervous system. During such hemorrhage, whether in the brain or the spinal cord, the cephalorachidian fluid withdrawn by lumbar puncture presents at times a yellowish or a greenish-yellow discoloration caused by a solution within it of the blood elements. In most of the cases there was not true hemoglobin present, but a special chromogen which had no influence on the solar spectrum at the level of the line made by hemoglobin and did not give the reaction by indirect oxidation by the tincture of guaiac and oxidized water. This special discoloration of the fluid may appear on the third day and remain perhaps for about eighteen days. Up to the present time no similar condition of the fluid has been found, excepting in severe cases of jaundice; therefore, with the exception of jaundice, the positive chromo-diagnosis constitutes a certain proof of hemorrhage somewhere within the nervous system or its immediate covering. If negative, of course, it does not disprove the presence of a hemorrhage. It is only when the fluid possesses this yellowish color and not a real blood color that one may think of an old hemorrhage.

ROY, at the Medical Society of the Hospitals, November 6, 1901, presented in the name of Variot a four-year-old child in which they had found the three chief symptoms of exophthalmic goiter, namely, the goiter, the exophthalmos and the tachycardia. The child was at once given thyroid extract; the pulse fell from 160 to 140, the anemia disappeared and there was an increase in weight of 3.50 kilograms. This seems to be the only published case of this disease in so young a subject.

RATHERY and CHAUFFARD exhibited the brain of a man who died a few days previous of apoplexy which followed a right hemiparesis with motor aphasia. The lesion was situated exactly at the base of the third convolution in the left frontal region. It consisted in a red softening due to the plugging up of the Sylvian artery. It was limited strictly to the cortical substance, which was proven by making numerous sections of the brain beneath this region.

LEVI and LEMIERRE discussed the case of a man twenty-four years old who, during the course of a mild typhoid fever, showed symptoms of cystitis. A bacteriological examination showed in the urine numerous bacilli of Eberth, which continued to be present three months after the appearance of the cystitis. The fact that the urine of a typhoid-fever patient can contain this bacilli with or without the signs of cystitis is interesting in the point of view of prophylaxis of the disease. It makes it necessary, therefore, to destroy the urine of such patients as well as their feces in order to prevent the spread of their disease.

MOSSÉ presented a contribution in which he reported a certain number of new observations tending to prove that, in the treatment of various kinds of diabetes and their complications, potatoes may with advantage be substituted entirely for bread. It must be remembered, however, that such treatment is equivalent to the alkaline treatment on account of the large quantity of potassium contained in this element. The best patients for whom to prescribe this class of diet is such as do not suffer from chronic nephritis, because potassium increases the toxicity of the blood.



## SOCIETY PROCEEDINGS.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, Held December 19, 1901.*

The Vice-President, Hermann Knapp, M.D., in the Chair.

THE scientific proceedings of the evening consisted of a discussion on tuberculosis and the prevention of tuberculosis, with an introduction by Dr. E. G. Janeway. Dr. Janeway's remarks were founded on the papers read and their discussion at the British Congress on Tuberculosis last August, at which he was in attendance as a delegate from the United States. Dr. Janeway's report will appear in a subsequent issue of the MEDICAL NEWS.

The first paper in the discussion of Dr. Janeway's report was read by Dr. Theobald Smith. Its subject was "The Difference Between Bovine and Human Tuberculosis." This paper will also appear in a subsequent issue of the MEDICAL NEWS.

**Danger from Bovine Tuberculosis.**—Dr. Hermann M. Biggs in discussing Dr. Smith's paper said that Koch's declaration has made the subject of human and bovine tuberculosis and their relation to each other and to disease in man of intense present-day interest. Koch's position as announced at the Congress involves two considerations—first, he claims that bovine and human tuberculosis and the bacilli which cause them are different, which position is not proven, and, secondly, that the danger of infection of human beings by bovine tuberculosis may be ignored. There is no doubt that the main factor in the distribution of tuberculosis among human beings is human tuberculosis in those living near them. Health authorities realize how significant human contagion is because of the immense amount of tuberculosis which exists in tenement-house districts. As high as eighteen to twenty per cent. of the deaths among the population in certain parts of the city that are especially crowded are due to tuberculosis. In other parts of the city, where there are ample living space, light and air, the mortality is less than one-quarter of one per cent. The English statistics with regard to the origin of tuberculosis in human beings are very different from our own and also differ very strikingly from the Continental statistics. Sir Thorne Thorne, some two years ago in his lectures on the dangers of the spread of tuberculosis, collected statistics to show that ten per cent. of the deaths from tuberculosis in England take place from *tabes mesenterica*. He argues from this that the main source of infection is milk, though probably also meat infected with bovine tuberculosis has something to do with the spread of tuberculous disease, especially of the intestines. He pointed out, also, that while the general death-rate from tuberculosis was decreasing, the death-rate from the abdominal form of tuberculosis was on the increase.

**American Statistics.**—Our statistics differ very materially from those of England in this matter. Death from primary intestinal tuberculosis is very infrequent in this country and especially in this city, where proper examinations are made in order to determine the origin of the tuberculosis. The death-rate from *tabes mesenterica* is less than one per cent. Our statistics agree in this matter with those of Germany and of France. There is evidently some factor entering into the English statistics that makes them inapplicable to conditions in other countries. Our statistics for primary intestinal tuberculosis confirms Koch's position that the danger from bovine tubercle bacilli taken into the human system is so small that it can be practically ignored.

**Limitation of Animal Tuberculosis.**—The question of the limitation of tuberculosis in animals is then not a human, sanitary problem, but an agricultural problem. The prevention of bovine tuberculosis is of extreme economic importance, but it must not be urged upon the community on the ground of danger to human beings because of the possibility of infection.

**Experiments Upon Human Beings.**—The inoculation of human beings with bovine tuberculosis is out of the question. Certain experiments in this line have been done in the past however. Baumgarten reports that Rokitanaky inoculated with tuberculous material certain persons, ten or twelve in number, who were suffering from cancer and were considered to be hopelessly ill. It had been observed that cancer patients did not suffer from tuberculosis, nor tuberculous patients from cancer. It was thought possible that the one disease might have some influence upon the other. Hence, the experiments were not entirely unjustified even from a humanitarian standpoint, as there seemed some faint hope of therapeutic benefit. The cancer patients were inoculated subcutaneously. Some local reaction took place, but no general infection occurred. At the autopsy no trace of tuberculosis could be found anywhere in the internal organs.

**Human Susceptibility.**—Dr. William H. Park said that, while it cannot be predicated of any specific animal infection that it will infect any other kind of animal, it is well known that when an infectious material proves pathogenic for a number of classes of animals very few animals are immune to it. Infections that are virulent for many animals are usually pathogenic also for man. There are many anomalies, however, in susceptibility. Rabies affects monkeys, but after it has passed through a series of monkeys the infectious material loses its virulence for dogs. On the other hand, rabbits are extremely susceptible to rabies, but any number of passages of the virus through rabbits does not diminish its virulence for dogs. Tuberculosis is a most insidious disease. It is practically impossible to tell the exact time of its origin in any given case. Hence, the difficulty of determining what is the exact cause of a tuberculous process in any given individual. In order to determine whether human tubercle bacilli would affect cattle, Dr. Park has had four suckling calves fed on sputum from tuberculous patients. Among them was distributed all the sputum collected daily from the tuberculous patients under treatment at St. Luke's Hospital. After three months the animals gave a reaction to tuberculin, though there was no reaction just after birth. When killed, however, no trace of tuberculosis could be found in their tissues. It is possible that more careful search might have shown a very limited area of tuberculosis somewhere in the tissues as the result of the presence of which the tuberculin test became positive. In this series of experiments there seemed very good reason to think that the animals should suffer from the disease if they were at all susceptible. They were kept in a rather cold, dark room and were evidently not up to the usual standard of health as a consequence. Some human tubercle bacilli were also subcutaneously injected. These produced local abscesses, but no generalization of the infection. It would seem clear then that human tubercle bacilli do not infect cattle when ingested or injected under ordinary conditions.

**Danger of Bovine Tuberculosis.**—It is well recognized now by bacteriologists that for susceptible animals bovine tuberculosis is much more virulent than human tuberculosis. It is possible that even, though human tuberculosis does not affect cattle, bovine tuberculosis may prove serious for human beings. This

would be especially true in young and delicate subjects and if, as is so often the case in infants, because of lack of variety in the diet, a considerable number of tubercle bacilli found their way into the intestines at one time the danger might be very great. It seems clear, therefore, that we must not lessen our precautions, though the question of the interchangeableness of human and bovine tuberculosis still remains open for discussion and is an extremely valuable field for study.

**Human Tuberculosis from Cow's Milk.**—Dr. Abraham Jacobi quoted a number of articles that have recently appeared in English and German medical journals with regard to the question of the possible origination of tuberculosis in human beings from cow's milk. Practically all writers are agreed that certain cases of human tuberculosis are etiologically connected with tuberculous cow's milk. There are many series of cases in infants reported in which this connection seems beyond doubt. This does not prove that the tuberculosis in infants originates frequently from cow's milk, but it does demonstrate that there is a certain amount of danger. Dr. Jacobi himself has reported a case of ascites in which tubercle bacilli were demonstrated, though no tuberculous lesions could be found in any other part of the body. Other such cases have also been reported. It is probable that in these cases the only explanation that can be accepted is that tubercle bacilli have come from the intestines. This does not necessarily infer that there are visible lesions of tuberculosis in the intestines. Tubercle bacilli and other micro-organisms may penetrate what to all intents and purposes so far as ordinary examination is concerned, is an unbroken mucous membrane. In Dr. Jacobi's case no tubercle bacilli could be found in the blood and there were no signs of miliary tuberculosis or of pulmonary tuberculosis, so that the bacilli surely came from the intestines. The intestine of young children is particularly predisposed to let bacilli pass. Hence, the frequency with which primary tuberculosis of the peritoneum occurs. As a matter of fact, peritoneal tuberculosis is nearly always isolated and tubercle bacilli are often able to find their way into the free abdominal cavity. In peritoneal tuberculosis the mesenteric glands are not always, nor necessarily, enlarged. In a word, tubercle bacilli succeed in finding their way to the peritoneal surface without the production of visible lesions along the paths through which they have come from the intestine. Dr. Jacobi believes that the danger of contracting tuberculosis through the intestine is underestimated and is liable to be more so, because of Koch's declaration and its effect upon the public mind. Intestinal tuberculosis is rare, but even these rare cases should be prevented. Generalized tuberculosis when the peritoneum is also involved usually originates in the peritoneal cavity. The infection practically always comes from the intestine. No matter how few the cases, then, it would be difficult to overestimate the danger of intestinal tuberculosis.

**Not Agricultural but Hygienic Problem.**—Dr. Jacobi thinks therefore that we can not have laws too strict for the regulation of the milk supply, so as to avoid the danger from tuberculous milk that certainly exists. The care of the dairy and the guardianship of bovine tuberculosis is not an agricultural, but a great hygienic problem. Time and money devoted to it are not in the interest of the farmers of the country and the dairymen, but of the human population and its health and especially the health of its infantile members.

**Rarity of Intestinal Tuberculosis.**—Dr. W. H. Northrup said that he has never seen a case where clinically he believed in the existence of a primary

mesenteric tuberculosis. He has made autopsies on 125 cases of infants who had died from tuberculosis under the care of the New York Foundling Asylum. These children had been distributed among families who would care for them and were, as a rule, fed on grocery milk. Every opportunity was presented then for the contraction of intestinal tuberculosis, but in only three cases did there seem to be primary intestinal tuberculosis. In 34 cases of general tuberculosis there was also peritoneal tuberculosis. In 13 cases the only parts affected were the bronchial lymph-nodes. Dr. Northrup said that in his experience peritoneal tuberculosis was not always, nor even usually, due to primary infection. On the contrary, as a rule the infection of the peritoneum seems to come after many other organs and tissues have been infected. In most cases, then, tuberculosis of the peritoneum appears to be the result of overflow of the tubercle bacilli from the system at a time when they exist so freely in the body that generalized infections have become possible.

**Minimal Danger from Bovine Tuberculosis.**—Dr. David Bovaird confirmed Dr. Northrup's statistics by a like series of his own in which only two cases of primary intestinal tuberculosis were noted. Recently Drs. Pearson and Ravenel in the Pennsylvania State Reports announced that in fifteen herds they found eighty per cent. of the cattle tuberculous. The milk from these herds had been very generally used in the neighborhood for the feeding of children. There was, however, no special incidence of intestinal tuberculosis in the vicinity thus supplied with milk nor any notable increase of the usual mortality from tuberculosis among infants. If there was much danger from the taking of tuberculous milk there should surely be convincing proof of it at hand by this time. As there is no absolute evidence, it would seem that there is but little danger from milk.

#### NORTH BRANCH OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

*Stated Meeting, Held December 20, 1901.*

H. Booker Mills, M.D., in the Chair.

**The Differential Diagnosis of Variola, Varioloid and Vericella.**—Jay F. Schamberg read this paper. He first called attention to the liability of error in the diagnosis of smallpox, which he classified under two heads, (1) the overlooking of the true nature of the disease and diagnosing it as something else, and (2) the mistaking of some other disease, such as chickenpox or measles, for smallpox. The period of incubation in smallpox is about twelve days, the pyrexia begins at this time and the eruption usually appears about a couple of days later. During the latter days of the period of incubation the patient usually suffers from malaise, general lassitude, loss of appetite and chilliness. These symptoms vary in intensity and are sometimes very marked toward the end of the second week of incubation. Smallpox usually begins with a chill of varying severity and is often associated with headache and frequently with backache. Attention was called to the fact that too much stress should not be placed on the latter symptom, as various other causes may produce it, and this is one of the most common errors. Among other symptoms sometimes present may be mentioned vomiting, fever, prostration, pain in the pit of the stomach, nausea without vomiting, vertigo, especially in the mild cases, and general soreness, both muscular and cutaneous, the latter symptom often causing the mistake of diagnosing a case of influenza as smallpox. The patient's temperature may rise as



high as 105° F. and may be accompanied by delirium, coma or convulsions, the two latter symptoms being more frequent in children. Sometimes the patient does not experience any initial symptoms. In 100 cases which recently came under the author's observation he found that headache was present in 86 cases; chills in 78; backache in 70; vomiting in 58; nausea without vomiting in 10. In only 2 of these cases were initial symptoms absent, although the cases included all forms of smallpox from the mildest to the most severe. The vaccine roseola which occurs eight or ten days after vaccination resembles very much the rubella rash. Chicken-pox, which is probably more often mistaken for smallpox than any other disease, has the following distinguishing features: The eruption occurs chiefly on the covered surfaces, particularly the back. The papilla may vary in size, and some often appear several days after the first have been observed, while eruption in smallpox occurs chiefly on the exposed surfaces of the body, is of uniform size and comes out almost all at one time. The character of the lesions in the two diseases is also very different, the smallpox lesion being a firm, shotty papilla developing into a vesicle. Another important factor in the differential diagnosis of these diseases is whether or not the patient has been recently vaccinated, for, if a good vaccination scar is present, one can more safely exclude the possibility of smallpox. One of the most difficult diseases to distinguish from smallpox is pustule syphilid, and many instances are recorded where one has been mistaken for the other, the most important feature in the differentiation being the previous clinical history of the patient.

**Vaccine Virus, Its Preparation and the Accidents Following Its Use.**—This was the title of a paper read by Dr. Joseph McFarland. Reference was made to the early history of vaccinia or cowpox and attention directed to the fact that the exact relationship which this disease bears to smallpox has never been clearly ascertained, although it has been observed that it was most prevalent among cattle when smallpox was at its worst among the human race. The characteristic features of vaccinia are marked constitutional symptoms and a rash limited to certain parts of the cow's body. The author referred to the difficulty that has always been experienced in transmitting any disease from man to cattle and cited in support of this theory the fact that, although syphilis and gonorrhea are everywhere recognized to be produced by micro-organisms, yet it is impossible to transmit these diseases to the lower animals. This difficulty in the transmission of disease from man to the lower animals, he thinks is due to the difference in the soil in which the germ is implanted and the difference between variola or smallpox in man and vaccinia or cowpox can no doubt also be explained on this basis, as but few of the attempts to transmit human smallpox to cattle by inoculation have proven successful. Reference was made to inoculation as the method in use for the protection of man from smallpox prior to the introduction of vaccination by Jenner, and the drawbacks of this mode of immunization were commented upon, prominent among them being the facts that the operation must always be performed when the patient was in the very best of health and even then a condition very similar to a slight attack of the disease itself was frequently experienced. The various advances in vaccination from the introduction of the original method up to the present time were noted and the advantages and disadvantages of vaccination with bovine virus over vaccination with human virus were discussed. Prominent among the former is the rarity of the occasions in which any micro-organism from the lower animals will develop

in the human system, the chief objections being the liability of the transmission of tuberculosis, which, however, the author considered as of but little import, owing to the fact that extreme care is used in the selection of the animals for this purpose and, as is sometimes claimed, the immunity following vaccination with human virus is considerably longer.

**Classes of Micro-Organisms Found.**—In the opinion of the author it is impossible to eliminate the micro-organisms from the virus; he considers that there are three kinds which are always present, namely, (1) the unknown specific micro-organism of vaccinia, (2) the micro-organisms from the skins of the animals, and (3) the micro-organisms that get into the virus accidentally from the air, instruments, hands, etc., during its preparation. By the use of glycerin in the preparation of the glycerinized virus no doubt many of the micro-organisms of the two latter classes are destroyed, as they seem to be more susceptible to this germicidal agent than the micro-organisms of vaccinia. Owing to this fact the author feels that the glycerinized virus is to be preferred to the dry points which are also used to a considerable extent by many physicians.

**Study of Vaccination Scars.**—Dr. William Welch read a paper entitled *Deductions from Studies of Recent Vaccinations; Interpretation of Old Scars; Complications of Vaccination*. In order to give some idea of the value of vaccination the author commented upon the fact that of the eight hundred people admitted to the Municipal Hospital in Philadelphia during the present epidemic of smallpox not a single case had recently been successfully vaccinated. Numerous instances have been observed where whole families have been taken to the Hospital, one of them suffering from this disease, and, although they had all been continuously exposed to smallpox for several weeks, those members who had recently been successfully vaccinated remained entirely immune. Instances have also come under his observation where vaccinated infants have taken their daily nourishment from the breast of their mother suffering from varioloid and have remained entirely free from smallpox. A number of similar instances were cited and attention was directed to the fact that where the proper precautionary measures of vaccination prior to taking up their duty in the smallpox wards has been observed, the author in his thirty years' connection with this Hospital has never seen a resident physician or nurse contract the disease.

**The Technic, Value and Object of Vaccination.**—This was the title of a paper read by Dr. Judson Daland, in which he emphasized the importance of proper cleansing of the skin prior to the operation. If the patient be a female he advises that it be done upon the antero-external aspect of the lower fifth of the thigh, and in a male it should be performed upon the antero-internal portion of the middle third of the left arm, provided he is right-handed. Not only should the skin be thoroughly cleansed, but it should be rendered aseptic by the free application of alcohol followed by ether. The author recommends the use of a sterilized steel five-pointed scarificator, which should be drawn parallel with the long axis of the limb and the scratching continued until there appears over a surface about a quarter of an inch in diameter a moisture composed of serum slightly blood-tinged, after which the scarificator should be moved at right angles until the wound presents a uniform pink appearance due to slight exudate of blood-stained serum. After this the virus should be applied and brought into thorough contact with the abraded surface by means of the scarificator, and an ordinary shield applied which the patient should be instructed to remove in twelve hours, when under ordinary circumstances a sufficient scab will have

formed to prevent re-infection of the wound from the skin or outside. The wound should be further protected by a simple surgical dressing, which should be removed, the wound cleansed and a fresh dressing applied nightly. As soon as the first evidence of inflammation shows itself, the physician should carefully cleanse the point of vaccination and surrounding skin with abundance of sterile hot water and white Castile soap, and, after thorough drying with alcohol, care being taken not to disturb the scab, the surrounding skin should be rubbed with simple oxide of zinc ointment, or, better still, with an ointment composed of five grains of boric acid to the dram of lanolin and almond oil. A surgical dressing composed of a thin piece of lint covered with this ointment should be placed over the pustule, over which should be placed a thin layer of borated absorbent cotton, the whole being held in place by a rubber bandage. This local treatment should be repeated once, twice or thrice daily, depending upon the amount of suppuration. Attention was directed to the value of vaccination as an immunizing agent and various statistics tending to prove this were quoted, notable among which were the observations made by Dr. Koch during an epidemic of the disease in Germany, which showed the mortality-rate among the unvaccinated to be 32 per cent. while among those who had availed themselves of this protection it was only 9.5 per cent.

**Tetanus Following Vaccination.**—Dr. William L. Kelchner of Camden, N. J., read a paper in which he gave a full account of this condition in cases which had recently come under his observation. There was but a very short period of incubation, and the author inclined to look upon the virus used as the source of the infection. Tetanus antitoxin was administered in the early stages of the disease, and it is to the prompt employment of this remedy that the author attributes the recovery of the patients. Strychnine was also given hypodermically in large doses. In his opinion the antitoxin to be of value must be administered promptly. The author feels that with care in the preparation of the patient, as outlined by Dr. Daland, tetanus would be avoided.

Dr. William F. Elgin, who has had large experience in the preparation of vaccine virus, opened the discussion and his remarks were particularly directed toward this subject. He commented on the fact that because a person will take vaccination it does not always follow that they will take smallpox, if exposed to the disease, citing in support of this theory that he has had under his observation for the past two years from two to three hundred young people employed in the manufacture of virus and has observed that when any one who has not been successfully vaccinated since childhood comes to work in the laboratory they immediately vaccinate themselves in any abrasion that may occur on the fingers, on the hands or even on the face, which is frequently followed by a revaccination in the same manner two or three weeks later, and he has observed instances where the same person would within twelve months vaccinate themselves in the same manner for the third time. In order to secure protection against vaccination he believes that it is necessary to vaccinate to the point of saturation, which he thinks is rarely reached by the methods practised in this country. Regarding the comparative values of human virus and bovine virus for vaccination, he remarked the fact that Mexico, where the use of human virus predominates and where it is claimed that the immunity lasts from thirty to forty years, is one of the most poorly-vaccinated countries in the world, and that in England, where this method is pursued at the present time, they are having the same trouble with smallpox following

vaccination as was experienced in this country some years ago.

**Selection of Animals.**—Mention was made of the careful selection of animals used in the preparation of this virus in order to exclude the possibility of transmission of infectious diseases and especially tuberculosis, and the technic of the inoculation of these animals was given in detail. Especial stress was laid upon the importance of avoiding drawing blood in vaccination. Many of the complications of vaccination are due to the micro-organisms on the surface being carried into the subcutaneous layers of the skin, thus producing pathogenic conditions. The glycerinated virus he considers far superior to the dry points, as he has observed several cases in calves vaccinated with the dry points where the odor of the animal became very offensive and amount of discharge from the wound very great in three or four days after the operation, while no such conditions have been noted where the glycerinated virus was used.

Dr. R. N. Wilson referred to two cases of tetanus following vaccination which had recently come under his notice, both of which resulted fatally, one in thirty hours and the other in six days after the development of this condition. Both of these cases had passed through a long incubation period and both were treated with antitoxin, which was administered as soon as the symptoms developed. Both were the children of stablemen and both families lived in close proximity to the stables, one of the children sleeping with its father, who was a coachman. The children were vaccinated in the most aseptic manner. As regards the source of infection, the speaker considered it due to outside infection, particularly as this same virus had been used in vaccinating about 560 students at the University of Pennsylvania and not a single case of tetanus has occurred among this number. As a curative agent he is inclined to place but little value upon the tetanus antitoxin, believing that its greatest use is in producing immunity from the disease, in which capacity he considers it invaluable.

**Shields.**—Dr. C. P. Franklin considers that many of the complications following vaccination are due to shields, and he is at present following out an original idea of always putting on the vaccination as soon as the virus is placed thereon, a little piece, say  $\frac{3}{4}$  of an inch square, of silk plaster, asepticized and prepared as would regularly be done for other surgical uses. He then puts on a dome-shaped aluminum shield which is also an original idea, the dome being formed by two ribs of the metal. This serves to protect the arm from the heavy winter underclothing and from inadvertent scratching. He has been using this method for some time and has since had no cases of tetanus and very few cases of inflammatory conditions of the arm.

Dr. Hugh Hanna made a few remarks on the subject of tetanus, bearing particularly upon a case of this condition following vaccination which had recently come under his observation. This case occurred in a child and the symptoms developed sixteen or eighteen days after the vaccination. The sanitary conditions were far from ideal, as the house was directly connected with a stable, the door from the dining-room opening into the stable, and the speaker was of the opinion that this, together with the fact that the people were not very careful in their habits, is quite likely to be responsible for the infection. The child was vaccinated on the left thigh. All the typical symptoms of this condition were present, the lockjaw lasted about a week, opisthotonus was pronounced and the convulsions of the muscles would come on at any time day or night. No antitoxin was used, but potassium bromide was administered in twenty- to thirty-grain doses every hour



for four or five hours, when it began to produce its effect, after which it was given on a two-hour basis. There was a small quantity of tincture of opium used in the early stages, but this was discontinued after the first day or two. After the severity of the spasm was relieved, it was observed that the stomach did not seem inclined to tolerate the bromide much longer and other narcotics were then resorted to. This was just prior to the beginning of convalescence. In about three weeks after the onset of the attack the child was able to sit up in bed and be helped up and sit in a chair, and now, several weeks later, she is able to go about the house. Her convalescence has been rapid.

#### NEW YORK STATE MEDICAL ASSOCIATION.

NEW YORK COUNTY BRANCH.

*Stated Meeting, Held December 16, 1901.*

The President, Parker Syms, M.D., in the Chair.

**Double Fibroid of the Uterus.**—Dr. Frederick Holme Wiggin presented two large fibroid tumors that had been removed from a uterus. He also showed other fibroid specimens and stated that he believed firmly that fibroids should be removed whenever they give serious symptoms. He has seen carcinoma of the ovary develop in cases where fibroid of the uterus existed and he has had no doubt that the malignant degeneration was due to the constant irritant presence of the fibroid and the congestion of the tissues which resulted. Malignant degenerations as the result of permitting fibroids to remain he considers to be not a rare sequela. This reason alone would suffice as an indication for their removal even in elderly persons. Decidua maligna used to be considered rare. When J. Whitridge Williams in 1895 presented the first American case it was thought a curiosity. The tumors have not become more frequent, but they have been found to occur much more frequently than was thought. Dr. Wiggin presented a specimen of this form of tumor and had some time ago another case in which he suspected its presence. The patient gave a history of having skipped three menstrual periods and then suffered from severe hemorrhage. The bleeding became severe, abortion was suspected and she passed a hydatid mole. The principal symptom for which she came to the hospital had no relation to her uterus, but consisted in severe sciatic pain. Extension of the leg was extremely painful, while flexion gave some relief. Her uterus was found to be about the size of an orange, though perfectly movable. Her condition was considered to indicate curettage. The curette did not bring away much material, but as the result of its use an enormous hemorrhage began. It was the largest hemorrhage Dr. Wiggin had ever seen. A stream of blood the size of the index finger that could not be stopped flowed from the vagina. A clamp was accordingly applied to the uterine arteries and the uterus was removed. This was done without hesitation because of a recent incident in the hospital. A patient on whom curettement was done suffered severely from hemorrhage and before it could be stopped by ordinary methods she was dead. In Dr. Wiggin's case fifteen hundred cubic centimeters of salt solution were introduced into a vein after the operation, and the patient recovered without incident.

**Pathologist's Report.**—Dr. Jeffreys said that the clinical history of the case, the appearance of the uterus, and especially the immense hemorrhage after the curettement, all point to the presence of a decidua maligna. The microscopic character of the growth is not sufficiently typical to make the pathological diagnosis absolute. As all previous cases of decidua

maligna have proved fatal, because of the malignant invasion of other organs, it is probable that the after-history of this case will clear up the diagnosis. So far there is no lung involvement, though the usual rule is to have metastases of this form of tumor to the lungs. Dr. Jeffreys presented microscopic sections of the tumor and stated that he considered it to be decidua maligna in a very early stage. There were marked invasions of the uterine walls by characteristic portions of decidua tissues. These point out the malignancy of the growth and seem to settle all doubt as to its absolute character, though so far these tumors have not been seen at so early a stage as in this case.

**Surgical Anatomy of the Lung.**—Dr. Irving S. Haynes of New York made a series of demonstrations on the cadaver to illustrate the surgical anatomy of the lung. He pointed out the costophrenic space which in the mid-axillary line begins about the ninth interspace and in the scapular line begins about the eleventh interspace. This is in the living subject and in conditions of health only a potential space. Effusion of fluid displaces the lung and the diaphragm and, hence, creates a space within whose limits there is favorable opportunity for operation. Dr. Haynes pointed out how closely the kidney and the spleen come up under the diaphragm and suggested the surgical possibilities that their relations involved. He pointed out how far the pleura rises up into the neck and indicated its limits at from half an inch to three-quarters of an inch above the clavicle. Dr. Haynes demonstrated the recent operation outlined by a French surgeon for the removal of foreign bodies from the right bronchus. Anatomically this operation is perfectly possible, surgically there seems serious danger of leaving the patient a corpse. The muscles of the back have to be cut through, the ribs resected and, at a depth of over three inches in the tissues, the azygos vein is discovered crossing the right bronchus. Care must be taken not to wound this. After making an opening three inches deep the operation is only just begun and the right bronchus has still to be opened. The operation seems theoretical rather than practical.

**Status of Tuberculin.**—Dr. E. A. de Schweinitz, Chief of the Biochemic Laboratory at Washington, D. C., sent a paper which was read by the Secretary on the use of tuberculin and of the products obtained directly and indirectly from the tubercle bacillus in pulmonary tuberculosis. The conclusion of experts is that neither the new nor the old tuberculin is effective in therapeutics. Dr. Otis of Boston, who has had considerable experience with tuberculin T. R., says that his faith in the substance as a diagnostic aid has been sadly shaken. In human beings men with outspoken tuberculosis sometimes fail to show any reaction after injections of the tuberculin. This is not true for animals. Very carefully conducted tests on animals show that tuberculin fails to demonstrate the presence of tuberculosis in a very small fraction of one per cent. of the cases. The tuberculin that is used for diagnostic purposes in animals is from human tubercle bacilli. At present these tubercle bacilli have been grown so frequently upon artificial media that they are innocuous for guinea-pigs. The properties of the substance, however, for diagnostic purposes remain unimpaired. With regard to the tuberculin from human and bovine tubercle bacilli, their action upon other animals seems to be about the same. Avian tuberculin seems to be practically identical in its effects with human and bovine tuberculin.

**Tuberculin for Prophylaxis.**—It is possible that tuberculin may yet be used for prophylactic purposes. Certain very encouraging observations in this line have

recently been made. In animals the continued use of increasing doses of tuberculin gradually renders the animal immune to larger and larger doses of virulent tubercle bacilli. These observations seem to show that the use of tuberculin for diagnostic purposes in human beings is not only permissible, but in suitable afebrile cases may actually prove of service in producing a certain reactive immunity of tissues.

**Human and Bovine Tuberculosis.**—The question of the distinction between those two processes is of intense interest just now because of Koch's declaration in London last August. Dr. Schweinitz is in the midst of a series of experiments that may help to throw some light on the matter. Monkeys were experimented upon and proved to be more susceptible to bovine tubercle bacilli than to those obtained from human sputum. The baboon, which is more nearly like man than the ring-tailed monkey, which was also used in these experiments, proved to be less resistant, though it is larger in size, and died of general tuberculosis six weeks after the injection of bovine tubercle bacilli. The smaller ring-tailed monkey lived for eight weeks and the infection was not so general.

**Antituberculous Serum.**—Serum prepared from the blood of animals injected with increasing doses of virulent tuberculous material has been used with some success in certain cases. Results have been so encouraging at times that the question of its possible usefulness must not be lost sight of. Tuberculosis, however, is a disease in which it is extremely easy to be self-deceived with regard to therapeutic effects. It will take a long time before the question of the absolute usefulness of this remedy can be decided.

Dr. J. Edward Stubbett of Liberty, N. Y., read a paper on the "Early Diagnosis of Pulmonary Tuberculosis with X-Ray Pictures of Diseased Lungs." This paper will appear in a subsequent issue of the *MEDICAL NEWS*.

**Surgery of Pulmonary Tuberculosis.**—Dr. William G. LeBoutillier said that it has always seemed as though surgery ought to be of practical use in tuberculosis of the lungs. At first it was thought that the introduction of drugs into cavities would prove curative. Then, too, it was considered that actual drainage of septic materials might be secured with the production of artificial collapse. After some unsatisfactory observations, however, the injection of chemicals was abandoned. Recently benefit has been derived from the injection of iodoform introduced through an incision in cases in which microscopic diagnosis demonstrated the existence of tubercle.

**Nitrogen Injections.**—These are now under trial. Favorable results have been reported. Undoubtedly this is an imitation of Nature's method of curing tuberculosis. Where small, limited areas of tuberculosis exist they would be especially suitable for extirpation. These are, however, just the cases that get better under simpler methods. If there is pyogenic infection and secondary symptoms occur, then surgery should be thought of. Aspiration and injection of cavities have not proved satisfactory, probably because the incision was too small. Obliteration of cavities is Nature's method of curing tuberculosis. Often, however, obliteration of the cavity fails, because the lungs are adherent and so collapse of the walls of the cavities cannot occur. Surgery may do good here by freeing the lungs from adhesions, and especially is this liable to do good where there is a single large-sized cavity. The injection of nitrogen gas should be employed whenever there are no adhesions. Hemorrhages can be treated very satisfactorily by means of nitrogen injections.

**Treatment of Tuberculosis.**—Dr. Charles E. Quimby said that when patients become ill with tuberculosis physicians are apt to send them to nearby sanatoria. When they themselves get ill they pack up and go to Denver. The climatic treatment of tuberculosis is undoubtedly the most effective. If patients insist on staying in the city we have no specific treatment, but we can do much to help them. There are two principal indications: First, increase the systemic defense, and, second, minimize the offensive forces. It is important to induce as soon as possible a high grade of nutrition. Patients should live high and develop gout as soon as possible. Patients with gouty tendencies do not develop tuberculosis. For this purpose tonics are necessary. Warburg's tincture is a good remedy. The use of the alteratives, especially mercury and arsenic, is to be recommended. Because of hepatic stimulation some form of oil should be taken rather frequently. If there is fermentation in the intestine, with tendency to colicky pains and diarrhea, castor oil should be used. Otherwise olive oil should be employed in tablespoonful doses three times a day or oftener. For stimulation of the general circulation hydrotherapy is extremely important. After the application of water dry friction should be employed. Any one who has seen how effectually a hacking cough can be relieved by a brisk rubbing of the thorax, back and buttocks, will never neglect the use of this therapeutic measure. The pain of dry pleurisy can also be removed in this way. The resolution of the inflammatory process on which dry pleurisy depends can also be hastened by the stimulation of the peripheral circulation.

**Pneumatic Cabinet.**—For the arrest of hemorrhage, treatment in the pneumatic cabinet is extremely effectual. Patients who are coughing up blood are relieved almost immediately by treatment in the cabinet. The inhalation of the vapors of alcohol formalin and of ozone gas is a useful remedy. The hanging-up in a sleeping-room of cloths that have been wrung out in alcohol and formalin does good to the patient and at the same time probably renders the rooms less dangerous for other people.

**Tuberculous Patients at Lakewood.**—Dr. William G. Schauffer of Lakewood, N. J., said that physicians are entirely too careless in sending patients with incipient tuberculosis away from home. If a patient is moderately well to do and his physician discovers that he has a tuberculous focus in his lungs, it is the custom to tell him briefly that he must go away from home for a time and take care of himself in the country. Lakewood is suggested as one of the possibilities for this stay away from home. The patient is told that he must stay out of doors most of the time, but nothing is told him of the inclemencies of the climate at Lakewood. At this season of the year it is no unusual thing to have a difference of fifty degrees between two successive days at Lakewood. For this sort of thing the patient is utterly unprepared. In his rather run-down condition with tendencies to fever and an appetite that is not very good, the patient, if he exposes himself, is very apt to be brought down with a congestive chill. As the result of this his tuberculosis is relighted up. He has to keep to his room for some time, his appetite is seriously disturbed and in general his condition is worse than it would be at home. When he does get out some of the precious time of his outing from the city is already gone by with harmful rather than beneficial results. It is too much the custom for city physicians to tell patients that in a short time they will be better. This is all right if the idea is to encourage the patient; but if the person has but



very little money he may easily go to Lakewood with the notion that a few weeks of stay will improve his condition so much that he can return to the city with safety. At the end of a few weeks he finds scarcely any improvement and, as Lakewood is an expensive place, all the money that he can afford to spend on a stay away from home is gone. As a rule, patients should not be sent to an expensive health resort when they may be more comfortable at home. Physicians at Lakewood see the inadvisability of this almost every day.

**Home Treatment.**—Dr. Schaffler insisted very much on individualizing the advice that must be given to patients. This must vary especially with the pocket-book of the sufferer. Wealthy patients can be readily advised to leave home for an unlimited time; but patients in moderate circumstances are apt to feel the drain upon their resources if their stay is to be long continued at an expensive hotel. For poorer patients it is absolute nonsense to make them dissatisfied by suggestions that they cannot follow, or to tempt them to raise a sum of money that will enable them to stay so short a time at Lakewood or some other expensive place that practically no good will result.

**The X-Rays in Diagnosis.**—Dr. Henry P. Loomis said that his experience with the X-rays in the early diagnosis of incipient tuberculosis did not quite bear out Dr. Stubbart's statement. The use of the fluoroscope does not make it possible to recognize tuberculous conditions until considerable thickening has occurred. By this time the disturbance of respiration and especially prolonged expiration will have become noticeable. The X-rays are of avail in assisting one to map out cavities better than by percussion. Dr. Loomis' experience with tuberculin in the diagnosis of tuberculosis has been very bad. He has been fearful of the results in some cases and has failed to obtain reaction in certain well-marked cases of pulmonary tuberculosis. The method of diagnosis with tuberculin is entirely too dangerous, considering how little advantage is to be gained from its use even under the most favorable circumstances. While the use of the method by such conservative observers as Trudeau shows that when carefully employed it may be of service, it is by no means a method for general employment. For the early diagnosis of initial lesions of tuberculosis in the lung, certain localized areas besides the apices should be carefully examined. The physician should never neglect to listen at the root of the lungs where the smaller bronchi are given off. It is in the smaller bronchi that the tuberculous processes usually begin. Auscultation of the root of the lung may be practised to best advantage by having the patient put the palm of his hand on the opposite shoulder. This raises the scapula and exposes a portion of lung that is often affected in incipient cases of tuberculosis, before other parts show any sign of the affection. Physical signs will often be found here long before bacilli occur in the sputum.

**Prognosis of Tuberculosis.**—As the result of association with sanatoria in which it is advisable that patients should if possible get well within a year, so as to leave places for other patients, Dr. Loomis' attention has been especially directed to the prognosis of incipient cases of tuberculosis. The most important factor for a patient in this matter is his stomach. A bad stomach always means a bad prognosis. This does not mean that the case is hopeless because a cough mixture easily disturbs the patient's stomach. What is meant is that patients who suffer easily from indigestion have an unfavorable outlook. The occurrence of rapid heart at the beginning of a tuberculosis when the physical signs are very slight is a bad sign. This shows an

instability of the nervous system controlling the circulation, and the patient's future depends to a great extent on his circulation compensating for his pulmonary lesions. If, with a slight apical catarrh, a patient has a pulse-rate of 105 to 115, the prognosis is never good. Such patients are slow to improve and relapses are rather frequent. If, notwithstanding the fact that their tuberculosis is in its incipient stage, patients continue to lose in weight under careful treatment the prognosis is not good. The cure of tuberculosis depends to a large extent on the patient putting on weight. If they have no tendency to do this in the early stages of their disease, it is a sign that their internal metabolism is not of the kind that will enable them to compensate for the drain upon their forces due to the presence of a focus of infection in their tissues. Except where heredity is a very prominent factor in the disease and a number of the patient's relatives have died from tuberculosis, simple inheritance does not seem to make the prognosis unfavorable. Vital resistance to tuberculosis is largely a personal rather than a family matter. Patients of a cheerful disposition get along best. There is a tradition that all cases with tendencies to pleurisy do well. Tuberculous affections at the base of the lung are apt to do badly.

**Blood-Pressure as an Incipient Symptom.**—Dr. S. A. Knopf said that an important symptom of early tuberculosis that may be recognized long before any physical signs are present is a drop in the blood-pressure. According to Professor Potain of Paris this was one of the most important diagnostic signs of the early stage of tuberculosis. It occurs long before any other sign and may be obtained readily with a manometer especially made for this purpose. Dr. Knopf's experience with tuberculin has been very sad. He does not think that any material for diagnostic or remedial purposes should be used by a physician on patients unless he would be willing to have it used on himself. Very few physicians would be entirely willing to have tuberculin used on them merely for diagnostic purposes.

**Sanatorium at Home.**—Sanatorium treatment at present is only possible for the wealthy and for those better provided with pecuniary means. The great mass of the people who become ill with tuberculosis must be treated at home. For them the great lesson of the open-air treatment at home is important. If nothing better than a steamer chair can be procured they should recline on this on a balcony in the open air for most of the day. If the balcony is out of the question, then they should sit at an open window even during the winter. The other element in the successful treatment of tuberculosis at home is the absolute regulation of every moment of the patient's life and of every portion of his dietary. Undoubtedly, hydrotherapy is of great benefit in tuberculosis. For its efficacious employment, however, an expensive bathing establishment is not necessary. Even a bath-tub can be dispensed with if none is at hand. Friends of the patient may be instructed to pour pitchers of cool water over him and the practice of massage and rubbings with alcohol will complete the stimulating influence upon the peripheral circulation which means so much to tuberculous patients.

#### WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

*Eleventh Annual Meeting, Held in Chicago, December 18 and 19, 1901.*

The President, A. F. Jonas, M.D., in the Chair.  
Old Shoulder Dislocation with Report of a Case.—

Dr. J. Rudis-Jicinsky of Cedar Rapids, Ia., presented a paper on this subject, showing the work of the X-ray in injuries to the joints, in luxations, fractures, the growth of callus, etc. He said in closing that one could period, when the organisms disappear, is still a exact position of the fragments.

**Irreducible Backward Dislocation of the Astragalus.**—This subject was discussed by Dr. W. Jepson of Sioux City, Ia. He did not believe it was possible to bring about the reduction of a backward dislocation of the astragalus without opening the joint and bringing about a reposition of the bone by direct manipulation. The astragalus should only be removed where the bone is completely separated from its ligamentous attachments.

**Internal Injuries of the Knee-Joint.**—Dr. M. L. Harris of Chicago referred to two varieties of injuries to the inner structures of the knee-joint, which he believed were quite common, and reviewed the ways in which the injuries could be received and the operative treatment.

**Ankylosis of Joints.**—Dr. John B. Murphy of Chicago recommended arthroplasty for the relief of ankylosis. He would treat such joints as one would treat non-union of fractures, as suggested by Chlumsky, from the interposition of foreign material between the fragments. He had employed the method successfully.

**Treatment of Dislocation of the Clavicle Through Open Wound.**—Dr. James B. Moore of Minneapolis, Minn., read a paper on this subject. Quite recently he had treated a case by cutting down upon the dislocated bone, replacing it and the surrounding soft parts and fastening them by means of silver wire and catgut sutures. The result was very satisfactory.

**Etiological Factors in the Production of Tumors.**—Dr. George Halley of Kansas City, Mo., referred first to the literature on the subject, including its etiology. He differentiated the processes of inflammatory conditions and tumor growths, and said that inflammation, because due to irritation, was the prime factor in the production of morbid growths.

**Surgical Procedures in the Removal of Fibromyoma of the Uterus.**—Dr. Joseph Eastman of Indianapolis, Ind., believed that the morphology of the tumor and environment of the patient should first be considered before removing the tumor.

**Myomectomy; Its Place in the Treatment of Fibromyoma of the Uterus.**—Dr. O. Beverly Campbell of Chicago, said that myomectomy can only be applied to well-selected cases, but should be the preferred method in every case where possible without risk to the patient and where the ovaries can be conserved with the uterus. Operative interference should be advised wherever myomectomy is possible; it is safe and free from risk.

**Management of Uterine Fibromyomata Complicated by Pregnancy.**—Dr. Miles F. Porter discussed the subject. Pregnancy he considered a serious and frequent complication of uterine myofibromata; each case was a law unto itself and should be treated accordingly. Of the utmost importance are the life of a mother and of the child.

**The Treatment of Fibroids of the Uterus by Electricity.**—This was the title of a paper by Dr. Franklin H. Martin of Chicago. He was of the opinion that the evolution of surgery for fibroids had gradually reversed the relative position of the galvanic treatment; that vaginal and abdominal hysterectomies and myomectomies for fibroids giving rise to serious symptoms, with their legitimate mortality reduced to one and two per cent., are remedies more conservative in their results than the treatment of the same tumor by elec-

tricity. While electricity frequently relieved, it seldom removed a tumor, and he believed that it had been properly superseded by surgery.

**Discussion.**—Dr. W. O. Henry of Omaha, Neb., thought that the electrical treatment of these tumors was overdone. Dr. Van Buren Knott of Sioux City, Ia., was of the opinion that myomectomy was a conservative procedure. Dr. B. B. Davis of Omaha, Neb., said that in case of myoma complicating pregnancy the tumor should be removed before the woman became pregnant. He condemned the induction of abortion before delivering or removing the tumor. Dr. C. H. Mayo of Rochester, Minn., mentioned the case of a woman of thirty years upon whom he had operated for tumor complicating her first pregnancy. She made a good recovery. Dr. A. C. Bernays of St. Louis, Mo., was in favor of myomectomy. Dr. Charles H. Wallace, of St. Joseph, Mo., believed that myomectomy was comparatively easy, but Dr. J. N. Warren of Sioux City, Ia., did not think that it was an easy operation. Dr. W. A. Tichenor of Chicago considered myomectomy a formidable operation. Dr. James E. Moore of Minneapolis, Minn., referred to the possibility of doing myomectomy through the vagina.

**The Use of the Gall-Bladder as a Suspensory Ligament for Prolapsed Liver.**—This was the title of the presidential address by Dr. A. F. Jonas of Omaha, Neb. He said that the liver was sometimes displaced downward to a considerable degree and that there was generally modified function and a definite clinical picture. He narrated the case of a woman who had suffered for three years from paroxysms of severe pain in the right hepatic region. On operation the liver was found three finger-breadths below the costal arch; in appearance it was normal. The gall-bladder was found with calculi in its walls. A displaced and movable kidney was likewise found. The gall-bladder was used as a suspensory ligament. The wound closed nicely and the patient was directed to wear a snugly-fitting abdominal band.

**Heart Suture.**—Dr. B. Merrill Ricketts of Cincinnati, O., read a paper on this subject. He had conducted many experiments on animals with reference to suturing the heart. Of twenty-seven cases of suture of the heart for wounds in human beings, at present noted, seven recovered. He had employed kangaroo-tendon in ligating the coronary arteries and fine silk sutures in the walls of the heart, as it was necessary to use a long-lived catgut. He believed that the time had come when a surgeon should no longer hesitate to open the chest for serious injuries of the lung and heart.

**Fracture of the Metacarpal Bones and Oblique Fracture, Simple or Compound, of the Forearm.**—Dr. W. W. Grant of Denver, Col., presented this paper. He referred to the application of Buck's extension in fractures of the femur, forearm and hand, and certain inflammatory conditions of the wrist and elbow-joints.

**Total Extirpation of the Prostate Gland Through a Median Incision in the Perineum.**—Dr. Alexander Hugh Ferguson of Chicago reported several cases operated upon by himself in which the results were better than had ever been secured by the suprapubic route. He described the technic of the operation and said that hemorrhage was avoided so long as one was careful to work within the capsule.

**Symptoms, Signs, Diagnosis, Prognosis and Palliative Treatment of Hypertrophy of the Prostate.**—Dr. Lewis Schooler of Des Moines, Ia., read a paper on this subject. In considering the palliative treatment he mentioned massage, aspiration, catheterization, dilatation and cystostomy. He made a plea for advance in therapeutic resources.



### Pathology and Etiology of Prostatic Hypertrophy and Suprapubic Drainage as a Method of Treatment.

—Dr. A. C. Bernays of St. Louis, Mo., presented this paper. The essayist believed that suprapubic cystotomy in stone in the bladder, hypertrophy of the prostate, etc., was a recognized and successful method of treating those conditions. By means of the drain he could give entire physiological and mechanical rest to the bladder, which rest would have a beneficial effect upon the hypertrophied prostate. However, he was of the opinion that as a radical cure for prostatic hypertrophy suprapubic drainage was a failure. He was opposed to operations in the dark.

**Suprapubic Prostatectomy.**—Dr. C. H. Mayo of Rochester, Minn., read a paper on this subject and said he believed that one-half of the enlarged prostate could be equally well reached from above or below, one-fourth better from above, one-fourth better from below, and a few would require a combined operation.

**The Indications and Limitation for the Bottini Operation.**—Dr. Louis E. Schmidt of Chicago read an interesting paper in which the writer concluded that the good results of the Bottini operation depended on the correct selection of cases, the proper technic of the operation and proper after-care, and the immediate correction of errors and mishaps.

**New Method of Anchoring the Kidney.**—Dr. Byron B. Davis of Omaha, Neb., read this paper. The author described very minutely the technic of his operation and gave the history of a case, saying that he reported the matter because it represented a new principle in treatment.

**Intestinal Obstruction from Meckel's Diverticulum, with Recovery.**—Dr. A. E. Halstead of Chicago summarized all cases accessible to him that could be found in literature. The total number of cases reviewed was 72; males, 45; females, 17. Deaths, 44. Recoveries, 21. Attachment or non-attachment of diverticulum or diverticular ligament, mentioned in 66; point of attachment noted in 44; to mesentery in 21; to umbilicus in 14; not determined in 3; diverticulum attached, 47; diverticulum free, 19.

**Grave Abdominal Injuries without External Evidences of Traumatism.**—Dr. R. Harvey Reed of Rock Springs, Wyoming, presented a paper on this subject. It is the surgeon's duty to make an exploratory incision in all cases where there is real doubt as to the nature of an injury and particularly so when the constitutional symptoms pointed to a condition more serious than was indicated by either the subjective or objective symptoms.

Dr. A. W. Abbott of Minneapolis, Minn., had experimented largely on animals with a view to determining the immediate effects of intestinal exposure. He concluded that the loss of water was unimportant, that the loss of heat was very important, as it temporarily placed the temperature of the intestines below the safety line, and that the drying of the peritoneum was so decided as to disturb the normal anatomical relations.

**Our Hospitals.**—This was the title of a paper by Dr. H. D. Niles of Salt Lake City, Utah. He believed that so long as a hospital measured its own usefulness by the number of patients treated, the standing of each member of the staff would be largely estimated by the size of his personal following, and the commercial spirit would rule both the institution and the individual to the exclusion or great detriment of scientific work. If the profession was ever to secure a voice it should formulate and adopt a business code that should not only meet the highest requirements of the ethics of the profession, but, at the same time, command the respect

and win the confidence and support of the twentieth century public.

**Surgery of Spina Bifida.**—Dr. Van Buren Knott of Sioux City, Ia., read this paper. The clinical features, diagnosis, prognosis and treatment were discussed. He also reported four cases, and was of the opinion that meningoceles, meningomyeloceles and syringomyeloceles may be considerably benefited by operation.

The following officers were elected for the ensuing year: President, Dr. James E. Moore, Minneapolis, Minn.; First Vice-President, Dr. J. R. Hollowbush, Rock Island, Ill.; Second Vice-President, Dr. W. W. Grant, Denver, Col.; Secretary-Treasurer, Dr. George H. Simmons, Chicago, Ill.

The next meeting will be held in St. Joseph, Mo., December 29 and 30, 1902.

### MEDICAL SOCIETY OF THE COUNTY OF NEW YORK

*Stated Meeting, December 23, 1901.*

The President, Frank Van Fleet, M.D., in the Chair.

**Etiology and Pathology of Osteomyelitis.**—This first paper of the evening was read by Dr. Joel E. Goldthwaite of Boston, Mass. Osteomyelitis is an acute infectious process always going on to suppuration and due to the presence of some microbic agent within the bone. It has been suggestively described as furunculosis of bone. In the ordinary skin furuncle a hair follicle becomes infected by pus micro-organisms. This produces the usual manifestations of inflammation. Leucocytes are poured out around the inflammatory focus, and this is walled off from absorption into the system. After a time the inflammatory exudate becomes fluid and as it is near the surface forces its way out with spontaneous evacuation of the infective material. Owing to the position in which pus develops within the bone shaft, it is retained, cannot find any avenue of exit, and so in osteomyelitis there is danger of general infection. Not infrequently the purulent process spreads at least through the bone marrow itself, producing quite extensive inflammation. At times, however, it remains as an absolutely localized process and may for years produce intermittent effects of discomfort and positive pain simulating joint disease. Dr. Goldthwaite then detailed some typical cases of osteomyelitis to illustrate its etiology and pathology.

**Osteomyelitis After Measles.**—The patient was a lad, six and one-half years of age, who shortly after an attack of measles was taken with a sharp pain in the upper part of the tibia. This became intense and swelling of the parts ensued with spreading of the area over which the pain was felt. The Roentgen rays showed that the whole of the upper part of the tibia had become separated as a sequestrum from the lower part. This type of extensive bone involvement is not infrequent. In this case it was due to the presence of the streptococcus in pure culture. This is the type of disease that is more particularly described in the textbooks, but there are others much less classical in character.

**Localized Osteomyelitis.**—A child, eight years of age, came to the hospital with a history of having fallen on the stairs. It was thought that he had sprained his ankle. After a few days both ankles became swollen and tender and then it was thought that the child was suffering from rheumatism. The Roentgen rays showed the presence of a localized abscess in the lower part of the tibia on one side and of localized abscesses in the tibial malleolus and in the os calcis on the other side. Though these two abscesses were situated so close together they were due to different causes. From one of the abscesses was obtained

a pure culture of *staphylococcus aureus*. This abscess was situated in the os calcis and contained yellow, creamy pus. The abscess in the tibia contained whitish pus in which was found *staphylococcus albus* in pure culture. Most of the clinical differences that are noted in osteomyelitic processes are due to differing varieties of micro-organisms which cause them. As a rule, the streptococcus produces serious diffuse conditions. The staphylococcus causes much more limited suppuration and, as a rule, a well-defined abscess. The staphylococcus aureus is the most frequent micro-organism in the production of osteomyelitis, as it is also the most common of the ordinary pus micro-organisms. Out of 130 cases of osteomyelitis carefully examined by bacteriological methods, 103 cases contained staphylococcus aureus.

**Other Micro-Organisms.**—Not infrequently the pneumococcus causes osteomyelitis. The pathological process occurs shortly after a pneumonia and runs a very rapid course. The pneumococcus has a very curious tendency to affect the epiphyseal ends of the long bones. The typhoid bacillus is rather more frequent than the pneumococcus in producing osteomyelitis. Keen, in his monograph on the surgery of typhoid fever, collects 38 cases of typhoid (pure culture) osteomyelitis. Other micro-organisms also produce osteomyelitis. In one case Dr. Goldthwaite found the *bacillus fastidus*. As a matter of fact, osteomyelitis is not a specific disease, but may be due to almost any micro-organism or to mixed infection.

**Incidence of Osteomyelitis.**—About one-half the cases of the affection occur between the ages of thirteen and seventeen. It is considerably more frequent in boys than in girls. The reason for this is not far to seek. Boys are more subject to injuries in their sports than are girls. Osteomyelitis occurs especially after exhausting disease, as after diphtheria or after the exanthemata. In these cases it is due not to the micro-organism that causes the disease, but to a secondary infection. Usually there is a history of some slight injury to account for the localization of the lesion.

**Avenue of Entrance.**—Osteomyelitis is not infrequently secondary to a furuncle or a small ulcer. The micro-organisms seldom seem to find their entrance through the intestinal tract, though from the occurrence of pneumococcus osteomyelitis, it is evident that the lungs are not so capable of keeping out infection. Ullmann showed that animals fed with large quantities of bacteria, mainly pus micro-organisms, did not suffer from osteomyelitis, even though fractures of their bones were artificially produced with the idea of causing a localization of the purulent infectious material in them. Dr. Goldthwaite is of the opinion that spinal osteomyelitis is much more frequent than has been thought. The laminae are much more liable to be affected than the bodies of the vertebrae. Many of the reported cases of cured spinal caries without deformity are really instances of osteomyelitis of the vertebrae. An osteomyelitic abscess may produce spinal cord pressure and paralytic symptoms.

**Chronic Osteomyelitis.**—Dr. Goldthwaite has had a case in which some soreness in the neighborhood of the joint, but really localized in a long bone, occurred not long after typhoid fever. At irregular intervals, sometimes of months, sometimes of years, there were subsequent attacks. The pain was usually referred to the knee. Careful examination finally revealed the existence of a localized area of tenderness over the head of the tibia. On operation a localized abscess was found, probably due to the attack of typhoid fever over thirty years before.

**Symptoms of Osteomyelitis.**—Dr. Robert Tunstall

Taylor of Baltimore, Maryland, read a paper on the clinical aspects and differential diagnosis of osteomyelitis. He said that his attention had recently been called to a chapter on the symptomatology of osteomyelitis written by the elder Nathan Smith of Yale more than 100 years ago. This gave such a complete idea of the symptoms and clinical course of osteomyelitis and was so exactly the same as might be written at the present moment that Dr. Taylor scarcely felt that he had a right to present the subject anew. The premonitory stage presents no very definite symptoms. There is apt to be some malaise and apathy, as the result of the absorption into the system of infectious material. After these uncomfortable feelings have continued for some time, there is apt to be a profound chill or, in children, a convulsion. Severe constitutional symptoms may follow these preliminary manifestations. There may be metastases of septic material to the meninges or to the heart; or there may be septic or fat emboli in the brain, causing sudden death.

**Active Osteomyelitis.**—Usually the most prominent symptom of the active stage of the disease is excruciating pain which is described by patients as of an intense, boring character. This is due to the fact that the pus is confined. As soon as it succeeds in finding its way out of the bone into the soft tissues, or when it is evacuated in any other way, there is an immediate sense of relief. The most useful symptom is tenderness. This is usually localized, but may be diffuse if the process has existed for some time. The osteomyelitis usually occurs in the long bones and especially those of the lower extremity. But it may occur in the flat bones and is not infrequent in the sternum. It occurs much more frequently in the bones of the spinal column than has been thought. The parts immediately over the osteomyelitic area do not become red and hot unless the pus finds an exit through the bone and approaches the surface. It is important to remember that pus microbes may exist in bone marrow for twenty years, only producing occasional symptoms of not very serious character, and then, finally, there may be a relighting up of the inflammatory process with severe symptoms.

**Differential Diagnosis.**—The important aid to differential diagnosis is the use of the Roentgen rays. The bacteriology of the blood is, however, also of importance. Frequently the bacteria will be found free in the circulation if the symptoms are generalized. Leucocytosis is always present in osteomyelitis and this enables us to differentiate it rather easily from typhoid fever, or scurvy or beginning sarcoma. Dr. Richard Cabot of Boston says that the blood in osteomyelitis is of more diagnostic value than any other element. In rheumatic pains, growing pains and the like, which sometimes, when very severe, arouse suspicion of the existence of osteomyelitis, there is no leucocytosis.

**Tuberculous Joint Affections.**—Dr. H. Augustus Wilson of Philadelphia read a paper on tuberculous, rheumatic and other affections of the joints, especially with reference to their etiology, pathology and differential diagnosis. He said that one of the most prominent features in tuberculous joint disease is the existence of tuberculous heredity in a very large majority of the cases. While the tuberculosis may not be congenital in any true sense, it is probably acquired at a very early age from association with tuberculous relatives. In early stages of tuberculous joint disease, the bacilli in the inflammatory products of the joint lesions take very well the ordinary stains for tubercle bacilli. Later they fail to take the stains so well. Finally, after considerable degeneration has taken place, the caseous material presents no signs



of the existence of tubercle bacilli when staining materials are used. Often when such degenerated tuberculous material is injected into animals, it fails to produce tuberculosis. In the course of time the mass has become non-infectious. This is the idea on which is founded the present system of therapeutics for these affections. If the parts are set at rest long enough Nature is able to protect herself and gradually to make the nodule of tuberculosis innocuous. The most important point in the treatment of tuberculous joint disease is its early diagnosis; the sooner the affected parts are put at rest, the surer and the more completely will the lesions heal. Unfortunately, the early diagnosis of tuberculous joint disease is not so easy as might appear in the perfectly characteristic symptoms that occur when the lesions are well developed. Very often the triviality of the symptoms at the beginning blinds the physician to the serious nature of the process that is at work. Orthopedic specialists are apt to blame the family physician for delay in the diagnosis of these conditions, but it is often almost impossible to recognize them at the beginning.

**Referred Symptoms.**—Another difficulty in diagnosis is the fact that the symptoms are rarely referred directly to the joint involved, but to some more or less distant part. The nerve to the joint and the muscles that pass over it are the physical basis for these reflex symptoms. Muscular rigidity and pain around a joint must always be considered significant. Night cries, due to the fact that the muscular rigidity, which during the day saves the patient from pain, is relaxed at night with the result of contact of diseased bone surfaces that causes pain, are often an early symptom. They occur especially in the early part of the night, before the child gets into its deepest sleep. Wasting of the muscles around the joint often develops very early in the disease. Within a week or two after the first appearance of joint symptoms some wasting of the muscles may be noticed. The characteristic spindle-shape of the joints, when muscle atrophy has occurred, is often referred to an enlargement of the ends of the bones that make up the joint. Measurements in comparison of the joints on both sides, however, will show that the enlargement is only apparent and due to the muscle atrophy above and below the joint, making it appear larger.

**Painful Symptoms.**—If there is a suspicion of tuberculous disease of the spine, the patient should be tested by slight jars upon the head. If in a joint in the lower limb, he should be asked to come down on his heels. This will show the existence of tenderness in the spinal or leg joints and constitutes an important symptom. These painful symptoms are so often relieved very early in the treatment by immobilization that the immobilizing apparatus is abandoned very early and the physician has recourse to massage or some other method of treatment. This is always a mistake and must be carefully avoided.

**Treatment of Tuberculous Joints.**—Dr. A. M. Phelps of New York said that for treatment of hip-joint disease patients should wear the long splint that takes all the weight off the hip-joint. This splint should extend two and a half inches below the hollow of the foot, and the weight of the body should be supported on a padded ring attached to the splint. Before the splint is applied the deformity must be overcome. Contraction of the limb should be overcome by forced extension if necessary. Muscular contraction must be overcome by the application of constant extension. These immobilizing splints for tuberculous hip-joint disease should be worn for from eighteen months to two years. Then a walking splint should be applied

which allows of some motion in the ankle, but keeps the hip-joint stiff. To attempt to relieve these cases of the necessity of wearing a splint for a shorter time than this is to invite failure in the treatment and relapse. This apparatus suggested by Dr. Thomas in England makes an excellent splint for knee-joint disease. The patient may be allowed to walk; the splint must come down some two and a half inches below the foot and should be slung over the patient's shoulder. By the use of straps some extension should be applied and by means of other straps the tibia should be pulled well forward.

**Aluminum Corsets.**—Dr. Phelps exhibited an aluminum corset, light yet strong and so perforated as to secure thorough ventilation. This he considers better than any other apparatus for Pott's disease. It costs more at first, but it will last for ten years, even with reasonably hard usage.

**Tuberculous Abscesses.**—Whenever there is pus present abscesses should be freely opened and drained. They should not be packed. The inside of the abscess should be thoroughly examined by the finger and all broken down material should be removed. Purulent material should not be allowed to burrow into the muscles and especially not into the tissues around the rectum, as it produces serious complications. Dr. Phelps uses large speculum drainage-tubes into which a certain amount of material is packed and the tube is allowed to remain in place. When the packing material is removed a good view can be obtained of the affected tissues. These abscesses should be washed out with pure carbolic acid followed by alcohol. This treatment will very often bring a long course of suppuration to an end.

**Conservative Treatment.**—Dr. Judson said that there is no short-cut to the treatment of tuberculous osteitis of joints. Yet if properly treated these conditions do recover. In a certain sense they are self-limited. Mechanical treatment is of great assistance, because, if the osteitic process is not interfered with, it never becomes serious. The great principle must be *non nocere*. It must be remembered, too, that the child's growth is of great assistance to us in the cure of the tuberculous process. Time is the most important therapeutic element.

**Subacute Osteomyelitis.**—Dr. George R. Fowler of Brooklyn said that, in spite of the fact that osteomyelitis is usually due to pyogenic micro-organisms, it may run a slow subacute course. This makes the differential diagnosis from tuberculous osteomyelitis difficult. In one case in the sternum after the diagnosis of tuberculous osteomyelitis had been made, the staphylococcus was found to be present, in spite of the chronic course. In the treatment of tuberculous abscesses and especially of chronic suppurative conditions in bones, Dr. Fowler has found that in cases where recurrence is to be feared and where it is often a source of great annoyance to the surgeon and his patient, the use of pure carbolic acid may be of great assistance. After thorough curettement the cavity is filled with pure carbolic acid and then this is lifted out with a pipette. After this alcohol is poured into the cavity and is removed. The pressure of the clot as suggested by Shady then assists in the reparative process.

**Osteomyelitis of Spine.**—Dr. Royal Whitman said that acute limited osteomyelitis of the spine is much more common than has been thought. It usually goes on to rapid healing after the pus has found an exit, and these are the cases of so-called Pott's disease that heal without deformity.

**Osteomyelitis Not Rare.**—Dr. Willy Meyer said that acute osteomyelitis is not rare in this city. If

embolic septic pneumonia occurs in connection with it and other general symptoms it is not easy to detect its presence. A source of infection that is sometimes not considered in these cases is the use of septic dental instruments. More than one-half the dentists in the city either take no antiseptic precautions, or take precautions that are so incomplete as to be of no avail. It is often from suppurative processes within the mouth that osteomyelitis is set up. Dr. Meyer said that in treating tuberculous joints in the arm Beer's method of producing venous congestion by means of elastic constriction should not be forgotten. Dr. Meyer has had a number of cases in which this method of treatment has given excellent satisfaction.

**Syphilitic Element.**—Dr. Plympton said that in cases of osteomyelitis with tendency to recurrence there is often a syphilitic basis to the disease. In relapsing cases mercury and the iodides should be used freely and will often be found of service. Frequently these cases are due to congenital syphilis and there may be very little to lead one to the suspicion of the existence of this disease.

#### SOCIETY OF DERMATOLOGY AND GENITO-URINARY SURGERY OF NEW YORK CITY.

*Stated Meeting, Held December 13, 1901.*

The President, Robert H. Greene, M.D., in the Chair.

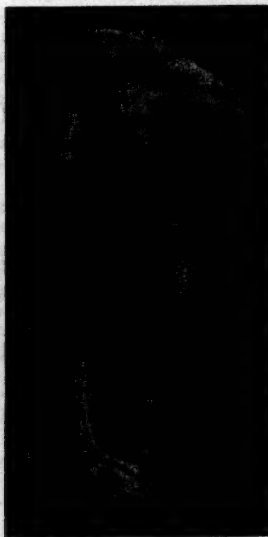
**Cutaneous Favus.**—Dr. E. L. Cox presented a patient suffering from a characteristic lesion of favus on the left forearm. When the patient, a girl about twelve years of age, came for treatment some four weeks ago, she complained of an abrasion on her arm. The characteristic appearances at once pointed out the diagnosis and a history of contact with animals was soon obtained. The little girl was accustomed to play with a cat. There was also a history of a mouse running around the house, apparently so tame that it allowed itself to be caught by members of the family and the little girl had handled it. The mouse disappeared shortly before the little patient came under treatment. It seems not improbable, however, that instead of being tame the creature was really blind. Careful questioning elicited the fact that it had something peculiar about its head. It is probable that it was suffering from favus, which it communicated to the little girl either directly or through the cat. Scrapings from the lesions produced beautiful cultures of characteristic cauliflower-shape when grown upon potato. Treatment of the condition is, of course, easy and it will not be long before the lesions will be made to disappear definitely.

**Chancroidal Lymphangitis.**—Dr. De Villa presented for Dr. Ramon Guiteras a case of this rare affection. Seven weeks ago the patient had coitus followed in two weeks by sores, three in number, under the prepuce. These caused a phimosis. He then presented himself at the clinic. His prepuce was then still phimosed, very much elongated, edematous, and infiltrated. The whole organ was red and the lymphatics on the dorsum of the penis were much enlarged, thickened and nodular. The pain was severe. One week later the lymphatics broke down, forming three ulcers upon the dorsum of the organ. These were typically chancroidal in character. The ulcers were cauterized and are healing. The patient can now pull the prepuce back a little. He has been injecting black wash beneath the prepuce and also using the lotion between its edges and to cleanse the chancroids on the dorsum of the penis. The lymphatics of the groin have become slightly enlarged during these last few days.

**Bubonuli.**—In discussing this case Dr. Levisur said that these lumpy formations on the dorsum of the

penis which finally break down are really bubonuli, little buboes. The lymphatics of the dorsum of the penis sometimes catch and retain the infectious agents from the chancroid, particularly if the original chancroid is located underneath an elongated and phimosed prepuce. It is not surprising, then, that a pathological condition should develop similar to that which occurs in ordinary buboes. The swellings are usually smaller in size and break down much more easily, forming crater-like ulcers as in this case. Quite often the occurrence of buboes in the groin is delayed until late in the affection and this seems to have been the case also in the present instance.

**Favus of the Nails.**—Dr. Levisur presented the nails removed from a case of favus of the nails and showed a wax cast of the fingers before treatment. The patient was a nurse, twenty-one years old, born in Ireland, who had suffered from an affection of the scalp for six years. Four months ago the nail of the index finger of the left hand began to show symptoms of disease and one month later the third finger was likewise affected. The condition is characterized by the absence of some part of the nail plate and an irregular hypertrophy of the nail bed whenever the horny layer is missing. The border of the latter is undermined particularly in the center where there is a hollow space which almost reaches the lunula. The diagnosis favus



Favus of Nails.

was made and on examination of the scalp, two bald, irregularly oval spots occupying the top of the head were found. They were white and slightly depressed. Dispersed over the rest of the scalp, which was covered by a strong coat of hair, were a number of small red papules covered with a brown scab, but there were no scutula. On December 9th the patient was put under ether and, after disinfecting the fingers thoroughly, both nails were extracted by means of Post's nail forceps. The evulsion of the nails was accomplished without difficulty. The fungus was found in the scrapings taken from the under surface of the extracted nail plates, which seems to be the place of predilection for the settlement of the *achorion schoenleinii*. There were no spores, but only mycelia. After the operation the finger was covered with iodoform gauze and protected by



a cap formed of small slips of adhesive plaster, which finally was painted with flexible collodion. In this case, as in most of the other cases reported in literature, the scalp showed signs which confirmed the diagnosis. From a microscopical standpoint alone the diagnosis is quite difficult, because it is difficult to obtain scrapings which contain the mycelia. In a case published by Dr. Levisseur in 1898 in the *Journal of Cutaneous and Genito-Urinary Diseases*, conditions were very similar to the present one. The treatment differed only in this, that the nail plates were allowed to grow for some time without cutting and formed a hollow shell from their free border to the lunula. It was then easy to pull them out under local anesthesia with ethyl chloride. Dr. Levisseur believes that the removal of the nail is the best method of curing this obstinate affection after it has once made some inroad and antiparasitic salves and lotions have shown their inability to do good. The new nail developing from the matrix pushes forward the diseased tissue, and all that is necessary to do is to keep the fingers bandaged with an antiseptic salve.

**Ordinary Remedies.**—In the discussion Dr. Lusk said that while favus in any part of the body is often obstinate to treatment the faithful application of a reasonably-strong solution of caustic potash or of a 10-per-cent. solution of pyrogallac acid in alcohol usually affects a cure. Patience on the part of the physician and sufferer is necessary.

Dr. Whitehouse said that until some recent experience he would have agreed with Dr. Levisseur as to the advisability of removing the nail in these cases. In a recent case, however, he had employed Dr. Johnson's remedy, namely, saturated solution of potassium iodide and tincture of iodine, in patients in whom all other kinds of treatment had failed and the favus fungus completely disappeared and the tissues had resumed a healthy look in six weeks. After three months there was a new smooth nail. This remedy, though rather dark-colored itself, does not produce a dark discoloration of the fingers; in fact, it is scarcely disfiguring at all. This forms a very easy method of treating what is usually an extremely obstinate affection. Dr. Whitehouse thinks that this remedy should be tried before employing the more radical method of avulsion of the nails.

**Inconveniences of Other Remedies.**—Dr. Goldenberg said that the usual remedies recommended for the treatment of favus are eminently unsatisfactory. Even when most successful they must be employed for long periods and require the most careful attention. Caustic potash and pyrogallac acid have not proved as effective in his hands as they seem to have done in those of others. With regard to caustic potash, Dr. Goldenberg has a word of warning to others. If the nail matrix is exposed, as is not infrequently the case in these patients, applications of strong solution of caustic potash are apt to give rise to severe and lasting pain. For this pain ordinary anodyne remedies, locally applied, fail to give relief. The patients complain very bitterly.

**Avulsion of Nails.**—In closing the discussion Dr. Levisseur said that the ordinary remedial treatment suggested for favus of the nail had proved so unsatisfactory in his experience that he considered it justifiable to remove the nails, for this seemed to be the only way by which prompt and sure cure could be obtained. In another case under Dr. Levisseur's care some time ago, the patient had been treated by all manner of methods. The old nails were loose and were easily removed and then the new nails, in their growth, proceeded to do away with the products of the old inflammatory process and gave, notwithstanding the severity of the old process, an excellent result.

**Cystoscope for Double Ureteral Catheterization.**—

Dr. Bierhoff presented a modification of the ordinary cystoscope that is meant to facilitate the introduction of catheters into both ureters at the same time, so as to permit of the simultaneous collection and comparison of the urine passed from each kidney. The simultaneous collection of the urine is necessary, especially in such tests as those with methylene blue or phloridzin. With the old form of cystoscope it was extremely difficult to insert the second catheter when one was already in place, and then the removal of the cystoscope often led to the removal of at least one of the catheters from the ureteral opening, because the instrument became entangled in the catheters. The distinguishing features of the new cystoscope are the existence of two complete tunnels for the ureteral catheter and an arrangement by which, after the insertion of the catheters, the cystoscopic portion of the instrument may be turned completely around so as to permit of its removal without the beak interfering with the catheters. This latter provision prevents entanglement and the premature removal of the catheters. Another advantage of the instrument is that the presence of the two tubes enables it to be used as a double-current irrigating instrument. If the fluid in the bladder becomes turbid it may be removed and a fresh solution readily introduced. The use of stopcocks at the external end of the catheter tubes enables the instrument to be used also as a single catheterizing instrument. One of the other advantages of the instrument is that it is entirely made in this country, that it is equal to the best German instrument and that it can be repaired, or parts of it can be replaced without delay and difficulty. While the cystoscopic portions of the instrument, as in all other cystoscopes, can not be sterilized by boiling, but must be cleansed by antiseptics, all the catheterizing portion of the instrument can be boiled.

**Ureteral Catheterization.**—Dr. Bierhoff answered certain questions in reference to the employment of ureteral catheterization in general. With regard to direct and indirect illumination, he said that the straight tube which permits of direct illumination may be readily employed in the phantom or where there is a perfectly level vesical floor. In prostatic cases, however, the use of the straight instrument is impossible. Whenever any distortion exists in the bladder, it is usually in the trigone. The straight tube can be always available only when it will be possible to look around a corner by direct vision. If the operator knows his instrument, if he has sufficient illumination, if he knows that the cystoscope will pass, and if clear fluid is in the bladder, there should be no difficulty for an expert to pass a ureteral catheter. The bladder must be sufficiently distended with fluid and the light must be as nearly white as can be obtained. Under favorable conditions Dr. Bierhoff has never failed to pass catheters into the ureters.

## BOOK REVIEWS.

**PEDIATRICS. THE HYGIENIC AND MEDICAL TREATMENT OF CHILDREN.** By THOMAS MORGAN ROTCH, M.D., Professor of the Diseases of Children, Harvard University. Third Edition. J. B. Lippincott Company, Philadelphia and London.

THIS edition shows Dr. Rotch's book in an almost entirely new form, having been most thoroughly and systematically revised. For many years this treatise has been one of the best classics in the English language, dealing with the development and care of children in sickness and in health. Dr. Rotch has not limited himself to the study of disease processes alone; he has given almost as much space to the hygienic care,

of the child during health as to the study of diseased conditions.

The chapters on infant feeding are especially valuable, although we confess that it is somewhat unreasonable to impose on the practitioner the long algebraic formulae which are here taken from Westcott. There are enough simple methods described, however, whereby the home modification of milk may be easily and satisfactorily accomplished. We believe that the medical profession and the lay public alike are to be congratulated that such an excellent work has been so thoroughly brought up to date.

**FIRST AID TO THE INJURED AND SICK.** By F. J. WARWICK, B.A., M.B. Cantab., Associate of King's College, London, and A. C. TUNSTALL, M.D., F.R.C.S. Ed., Surgeon-Captain Commanding the East London Volunteer Brigade Bearer Company. W. B. Saunders & Co., Philadelphia and London.

This book seems to be a very valuable compendium of practical suggestions. The illustrations show especially the use of the triangular bandage and of unusual forms of bandages of special form—the square bandage, the four-tailed and the many-tailed bandage. The chapter on the immediate treatment of sprains and fractures is very practical because of its suggestiveness as to the use of material likely to be near at hand in case of accident. As a whole the little book is one of the best of its kind. It contains in very convenient form chapters on the transportation of the sick and injured, on poisons and their immediate treatment and the immediate treatment of insensibility and fits.

**TEXT-BOOK OF NERVOUS DISEASES.** Being a Compendium for the Use of Students and Practitioners of Medicine. By CHARLES L. DANA, A.M., M.D., Professor of Nervous Diseases in Cornell University Medical College. Fifth Edition. William Wood & Company, New York.

Dr. DANA's text-book is too well known to need special words of commendation. The fifth edition of the work has been reached in less than ten years. As the subject of nervous diseases is of less general interest to physicians, this fact is of itself sufficient to demonstrate the merits of the book by its popularity among the profession.

The present edition does not differ very materially from the fourth. There are some minor changes in the microscopic anatomy of the nervous system and a short chapter upon the diagnosis of the diseases of the cauda equina. The chapter on myelitis has been rewritten and the book is now thoroughly up to date in this progressive subject. It is an index of present tendencies in neurology that the author has seen fit to add a chapter on general paresis, since, as he says, it is a disorder which belongs fully as much to neurology as to psychiatry. Notwithstanding the additions, careful elision and compression have kept the work from being larger than before, so that it remains a very handy reference-book in its increasingly important subject and at the same time one of the best text-books of the kind in any language.

**GREEK THINKERS.** A History of Ancient Philosophy. By THEODORE GOMPERZ, Professor at the University of Vienna and Member of the Imperial Academy. Translated by LAURIE MAGNUS, M.A., Magdalen College, Oxford. Charles Scribner's Sons, New York.

No philosopher who was unacquainted with modern science could have traced as Professor Gomperz has done the history of all knowledge back to the first deep impulses that stirred the philosophers of Greece to search for facts and truths. In each section the author

asks: "What elements of modern science were implicitly present in the doctrines of the earliest philosophers who were seeking for knowledge?" He showed that Pythagoras discovered that sound is subject to a numerical law; that the idea of evolution was foreshadowed in the assumption that the world-process is a continuous one, and that Empedocles anticipated Darwin's doctrine of the survival of the fittest in the struggle for existence. He traces back to their sources the sciences of astronomy, chemistry, physics and botany; but what interests us most is his chapter on Greek physicians.

"The threads that bind antiquity to modern times lie open to view," and it is with his index finger on these threads that the author leads us back through the maze of tradition, mysticism and sophistry to the old and famous center of medicine in the island of Cos, where was born Hippocrates the Great, who was "recognized by all antiquity as the type of the perfect physician." With the art of the dramatist he vivifies the dead names of the physicians of the famous school of Cos, and pictures their keen methods of observation, their faulty generalizations, their conflicts with superstition.

There is in this summary the same perception of essentials and clear expression of relations that characterize the whole book: "The pioneer virtues which distinguished the Coic masters from their opponents were a self-abnegation, and a timely renunciation of ambitions, fascinating enough, and even exalted in themselves, but at that era and long afterward out of reach, and these virtues entitle them to our ungrudging admiration at this day. We recognize their supreme merit in having developed, with tireless powers of observation and extraordinary faculties of clear sight and strong sense, those branches of the art of healing, which were capable of extension without digging their foundations more deeply. Above all we may specify their contributions to symptomatology, which, by their endless supply of nice distinctions and acute observations, are a source of pleasure and instruction to modern students of that branch of learning."

The dawn of the allied sciences illumines each the other, and the physician who feels that he is becoming narrowed by the restrictions and exactions of his profession will find stimulus and breadth in meeting in the pages of this masterly work the very incarnation of the Greek Thinkers.

**THE PROTOZOA.** By GARY N. CALKINS, Ph.D., Instructor in Zoology, Columbia University. Columbia University Biological Series. VI. The Macmillan Company: New York.

THE medical man of the present day is as well posted on microscopical plants, it might be said more so, than on the flowers of the field, and, if the recent developments of animal parasitology are to continue at the present rate, it will be incumbent on the student of the future to know his microscopical animals as well as those of more mighty stature.

This work of Dr. Calkins will prove a very important one to the student of the lowest forms of animal life, the protozoa, and is to be cordially commended to the medical man with tastes, biological and microscopical. It is strongest on the details of morphology and of cytology, less valuable from the taxonomic standpoint and of no value to the superficial student who wishes only to find the name of a species.

Considerable space is given to the discussion of the parasites of malaria and similar parasites, and this aspect of the work is very satisfactorily handled. It is to be remembered, however, that the work is not written particularly for the student of medicine, but for the



zoologist, nevertheless the practitioner who is interested in the primary problems of animal physiology can find much in it that will amply repay for the reading.

**MANUAL OF THE DISEASES OF THE EYE.** For Students and General Practitioners. By CHARLES H. MAY, M.D., Instructor, Eye Department, in the College of Physicians and Surgeons, Medical Department of Columbia University. Second Edition. William Wood & Company, New York.

THIS work, the first edition of which found such a favorable reception, has been thoroughly revised in the second edition and improved by the additions and alterations. The chapter on ocular therapeutics has received special attention. Some colored plates have been added. One showing changes in the media as seen by oblique illumination and by the ophthalmoscope at a distance is especially valuable. Another plate, illustrating the various micro-organisms found in conjunctival, corneal and lacrimal diseases, is useful on account of the greater interest now taken in the bacteriology of the eye. We have the same reasons for commending this book now as when we reviewed the first edition.

**A LABORATORY HAND-BOOK OF URINE ANALYSIS AND PHYSIOLOGICAL CHEMISTRY.** By CHARLES G. L. WOLF B.H., M.D., Instructor in Physiological Chemistry, Cornell University Medical College, New York. Philadelphia and London: W. B. Saunders & Company.

THIS small manual differs in no essential manner from many others devoted to similar subjects, save that we do not consider it as good as some others which have been published recently. The part devoted to physiological chemistry is very meager. The urinary examination features, however, are very excellent and we believe the work accurate and reliable. It bears the impress of much personal experience. Some tables of diagnosis at the end of the work will be found very helpful, even if more didactic than modern medicine will permit.

**THE PRACTICE OF OBSTETRICS.** By American Authors. Edited by CHARLES JEWETT, M.D., Professor of Obstetrics and Gynecology in the Long Island College Hospital, New York. Second Edition. Lea Brothers & Co., New York and Philadelphia.

UP TO DATE this is probably one of the most praiseworthy attempts at a tangible text-book on obstetrics that have been published in the last decade in the English language. Dr. Jewett has endeavored to collect the best ideas of American workers in the various departments of midwifery. The arrangement of the various sections of the book is most excellent and a decided improvement over the time-honored custom.

We regret that Caesarian section is really neglected in the comparison with the chapter upon symphysiotomy to which entirely too much space is devoted. This procedure is nowadays scarcely in vogue, but is more or less warmly advocated in this publication.

The bacteriology and pathology of obstetrics is most ably and carefully set forth whenever any occasion arises for their explanations.

Unfortunately, it is impossible to get together such work and eliminate the personal element of the various contributors. And this is none the less evident in this case. However, we are indebted to Dr. Jewett for the small amount of this in his collaboration. The text is most interesting and the illustrations are clear and sufficient. The whole book is tastefully and neatly designed.

The following is a list of contributors: Charles

Jewett, Elias Bartley, A. T. Bristow, A. H. Buckmaster, J. C. Cameron, H. D. Chapin, M. A. Crockett, R. L. Dickinson, J. C. Edgar, A. McL. Hamilton, F. Henrotin, W. P. Manton, C. D. Palmer, Jno. O. Polak, Hunter Robb, J. M. Van Cott, H. N. Vineberg, J. C. Webster, and J. Whitridge Williams.

**A LABORATORY COURSE IN BACTERIOLOGY.** For the Use of Medical, Agricultural and Industrial Students. By FREDERIC P. GORHAM, A.M., Associate Professor of Biology, Brown University. W. B. Saunders & Company, Philadelphia and London.

FOR the exact purposes for which it is meant this is a splendid little volume. Within a very small compass it discusses the fundamental principles of the life-history, growth-characters, and general features of bacteria. The modes of cultivation, the technic of staining and general classroom-laboratory mode of dealing with such problems is very clearly and succinctly set forth.

While this volume will be of secondary use to an advanced student, for a beginner, particularly in agricultural colleges, colleges of pharmacy, and in the smaller medical colleges, it will be found of good service and it is to be recommended cordially.

**ATLAS AND EPITOME OF SPECIAL PATHOLOGIC HISTOLOGY.** By Dr. HERMANN DÜRCCK, Assistant in the Pathologic Institute, Munich. Edited by LUDVIG HEKTOEN, M.D., Professor of Pathology in Rush Medical College, Chicago. W. B. Saunders & Company, Philadelphia and London.

THIS is the second volume of the author's "Special Pathologic Histology" and includes the lesions found in the liver, the urinary organs, the sexual organs, the nervous system, the skin, the muscles, and the bones, thus completing the field of special pathology. The author purposes to issue a third volume on general histology.

We have already spoken of the high class character of Dr. Dürck's first volume. His second contribution sustains the reputation of the first and cannot fail to be of great service, not only to the student of medicine, but to the teacher. The illustrations are remarkably well done, the colored plates being very clear and comprehensive. For a work of the size, and for the price, it seems impossible that anything better could be produced.

**THE ROENTGEN RAYS IN MEDICINE AND SURGERY AS AN AID TO DIAGNOSIS AND AS A THERAPEUTIC AGENT.** Designed for the Use of Practitioners and Students. By FRANCIS H. WILLIAMS, M.D. (Harv.), Visiting Physician at the Boston City Hospital. The Macmillan Company, New York.

DR. WILLIAMS is already known as one of the best authorities in this country on the use of the Roentgen rays in medical and surgical diagnosis and in the other applications of this new electrical agent. The present volume firmly establishes his reputation as an expert in the matter of Roentgen-ray knowledge and, at the same time, serves to show how much this recent discovery means not only for diagnosis, but for therapeutics.

As might well be expected, the chapters on the use of the X-rays as a means of diagnosis in pulmonary tuberculosis are complete and very informing. The book is not loaded down with a series of illustrations without peculiar significance. Illustrations are introduced always with a definite purpose and serve to bring out very clearly the important points that Dr. Williams wishes to emphasize.

The chapters on the applications of the X-rays to the

diagnosis of fractures and dislocations, as well as the recognition of deformities and congenital malformation, contain a very thorough discussion of all the technical points connected with these subjects. The chapter on dental surgery shows how significant the Roentgen skiagrams may be in the recognition of unerupted teeth, of alveolar abscess, of fractures of roots and of fluid in the antrum. All of these details were practically beyond the positive diagnostic knowledge of the dental surgeon before the days of Roentgen's discovery.

The therapeutic uses of the X-rays and especially their action on bacteria in the tissues receive very thorough consideration. The favorable employment of the X-rays for the cure of lupus makes an especially interesting part of this chapter. The use of this electrical agent also in the treatment of external forms of cancer receives an up-to-date discussion that will prove especially informing to the general practitioner who is interested in knowing how far the meager, but very promising results that occasionally are reported are justified by the actual experience of a conservative and expert observer.

**A CIVILIAN WAR HOSPITAL.** Being an Account of the Work of the Portland Hospital, and of Experience of Wounds and Sickness in South Africa, 1900. By the Professional Staff. ANTHONY A. BOWLEY, Senior Surgeon, HOWARD H. TOOTH, CUTHBERT WALLACE, JOHN E. CALVERLEY and SENIOR MAJOR KILKELLY. Longmans, Green & Co., New York.

The preface of this very interesting work tells us that the "Portland Hospital" was the first of the civilian hospitals to be equipped and sent to South Africa after the opening of the Boer war in October, 1899.

The character of the work is largely descriptive of the work of the hospital and of its equipment, and is a complete and very agreeable contribution to the broader aspects of modern warfare considered from its medical side, the economics of the running of the hospital being an especially practical and illuminating chapter.

As a contribution to medical and surgical science, the work is worthy of commendation. The joint authors have confined their attention to a few salient features, and wisely, we believe, to those of the greatest practical importance. Thus, the subjects of typhoid fever, the various forms of dysentery, diseases due to exposure, sunstroke and mental disturbances, are taken up in a serious and eminently satisfactory manner.

The surgical discussions take up the varying features depending on gunshot wounds and contribute much important data to the understanding of this absorbing topic. A series of appendices are very ingenious and cast many side lights on the economic features of such a project. To the military surgeon, engineer or hygienist such a work comes as a boon and to the outside profession as an opportunity.

**A TEXT-BOOK OF PHYSIOLOGICAL CHEMISTRY.** For Students of Medicine and Physicians. By CHARLES E. SIMON, M.D., of Baltimore, Md. Lea Brothers & Co., New York and Philadelphia.

From the first glance of this work one is struck with the great amount of information that is contained in this work of really small compass; a further study shows that the author has made an extremely careful choice of the facts of physiological chemical science and has had the rarest of powers in being able to tell the facts in a way that makes them vivid and real.

Modern-day therapeutics, not to mention physiology, is so essentially bound up with chemical problems that the physician of the present day perforce needs to know all that is found in a work of this kind, and we

know of none better and few as good for the purpose. We can heartily recommend it as authentic, concise, not too theoretical and yet judicious in its handling of mooted points.

## BOOKS RECEIVED.

*The MEDICAL NEWS acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the MEDICAL NEWS will shortly appear.*

**FIRST AID TO THE INJURED AND SICK.** By Drs. F. J. Warwick and A. C. Tunstall. 12mo, 232 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

**THE PRINCIPLES OF PATHOLOGICAL HISTOLOGY.** By Drs. Harvey Gaylord and Ludwig Aschoff. Quarto, 359 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

**THE SURGICAL AND MEDICAL HISTORY OF THE NAVAL WAR BETWEEN JAPAN AND CHINA DURING 1894-1895.** By Baron Saneyoshi and S. Suzutsu. 8vo, 544 pages. Illustrated. Tokio.

**DIE NERVÖSE SCHLAFLOSIGKEIT IHRE URSACHEN UND IHRE BEHANDLUNG.** By Dr. Max Heim. 8vo, 59 pages. Friedrich Cohen, Bonn.

**ESSENTIALS OF PHYSIOLOGY.** By Sidney Budgett. 8vo, 233 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

**MEMOIRS AND LETTERS OF SIR JAMES PAGET.** Edited by Stephen Paget, one of his sons. 8vo, 438 pages. Illustrated. Longmans, Green & Co., New York, London and Bombay.

**THE MENTAL FUNCTIONS OF THE BRAIN.** By Dr. Bernard Hollander. 8vo, 507 pages. Illustrated. G. P. Putnam's Sons, New York and London.

**PRACTICAL MEDICINE.** By Dr. F. Mortimer Lawrence. 8vo, 521 pages. Illustrated. Boericke & Tafel, Philadelphia.

**A PRACTICAL GUIDE TO THE ADMINISTRATION OF ANÆSTHETICS.** Dr. R. J. Probyn-Williams. 12mo, 211 pages. Illustrated. Longman, Green & Co., New York, London and Bombay.

**PHOTOTHERAPY.** By Dr. Niels R. Finsen. Translated from German Edition by Dr. James H. Seguiria. 8vo, 79 pages. Illustrated. Edwin Arnold, London.

**AN EXPERIMENTAL AND CLINICAL RESEARCH INTO CERTAIN PROBLEMS RELATING TO SURGICAL OPERATIONS.** By Dr. G. W. Crile. 8vo, 200 pages. Illustrated. J. B. Lippincott Company, Philadelphia.

**THE BABY.** His Care and Training. By Marianna Wheeler. 12mo, 188 pages. Illustrated. Harper & Brothers, New York and London.

**TRANSACTIONS OF THE TWENTY-THIRD ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION,** Held at New Haven, Conn., 1901. Rooney & Otten Printing Co., New York.

**THE FOUR EPOCHS OF WOMAN'S LIFE.** By Dr. Anna M. Gailbraith. 8vo, 200 pages. W. B. Saunders & Company, Philadelphia and London.

**GYNECOLOGICAL PATHOLOGY.** By Dr. Carl Abel. Edited by Dr. S. W. Bandler. 8vo, 237 pages. Illustrated. William Wood & Company, New York.

**TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS.** Sixteenth Session. Vol. XVI.

**VENEREAL DISEASES.** A Manual for Students and Practitioners. By Dr. James R. Hayden. Third Edition. 8vo, 301 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

**A MANUAL OF CLINICAL LABORATORY METHODS.** By Dr. J. B. Nichols. 8vo, 301 pages. Illustrated. William Wood and Company, New York.